

En 218

**DOE'S SAFETY AND HEALTH PROGRAM FOR
ENRICHMENT PLANT WORKERS**

HEARING
BEFORE THE
**SUBCOMMITTEE ON ENERGY, NUCLEAR
PROLIFERATION AND FEDERAL SERVICES**
OF THE
**COMMITTEE ON
GOVERNMENTAL AFFAIRS**
UNITED STATES SENATE
NINETY-SIXTH CONGRESS
SECOND SESSION

JULY 21, 1980

Printed for the use of the Committee on Governmental Affairs

NEWARK PUBLIC LIBRARY



DEC 5 1980

U. S. GOVT. PUBS.
DEPOSITORY 376

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON : 1980

68-325 O

Y4. B74/9:

HEARING

BEFORE THE

COMMITTEE ON GOVERNMENTAL AFFAIRS

ABRAHAM RIBICOFF, Connecticut, *Chairman*

HENRY M. JACKSON, Washington

THOMAS F. EAGLETON, Missouri

LAWTON CHILES, Florida

SAM NUNN, Georgia

JOHN GLENN, Ohio

JIM SASSER, Tennessee

DAVID PRYOR, Arkansas

CARL LEVIN, Michigan

CHARLES H. PERCY, Illinois

JACOB K. JAVITS, New York

WILLIAM V. ROTH, Jr., Delaware

TED STEVENS, Alaska

CHARLES MCC. MATHIAS, Jr., Maryland

JOHN C. DANFORTH, Missouri

WILLIAM S. COHEN, Maine

DAVID DURENBERGER, Minnesota

RICHARD A. WEGMAN, *Chief Counsel and Staff Director*

PAUL HOFF, *Counsel*

HANNAH S. SISTARE, *Chief Minority Counsel and Staff Director*

ELIZABETH A. PREAST, *Chief Clerk*

SUBCOMMITTEE ON ENERGY, NUCLEAR PROLIFERATION AND FEDERAL SERVICES

JOHN GLENN, Ohio, *Chairman*

THOMAS F. EAGLETON, Missouri

HENRY M. JACKSON, Washington

CARL LEVIN, Michigan

JACOB K. JAVITS, New York

TED STEVENS, Alaska

DAVID DURENBERGER, Minnesota

LEONARD WEISS, *Staff Director*

LEONARD S. SPECTOR, *Chief Counsel*

MEG POWER, *Minority Staff Director*

DEBORAH STRINMEYER, *Chief Clerk*

(II)

CONTENTS

Opening statement: Senator Glenn.....	Page 1
---------------------------------------	-----------

WITNESSES

MONDAY, JULY 21, 1980

J. Dexter Peach, Director, Energy and Minerals Division, U.S. General Accounting Office, Washington, D.C., accompanied by James Howard, Energy Minerals Division, General Accounting Office, and Ken Lightner, team leader.....	3
Jerry Purswell, Special Assistant for Scientific and Regulatory Affairs, Occupational Safety and Health Administration, accompanied by Benjamin Mintz, Associate Solicitor of Labor, OSHA, and John Miles, Acting Field Coordinator, OSHA; John Froines, Deputy Director, National Institute for Occupational Safety and Health, Rockville, Md., accompanied by Philip J. Bierbaum, Deputy Director, NIOSH; William R. Voigt, Jr., Director, Office of Uranium Resources and Enrichment, U.S. Department of Energy, Washington, D.C., accompanied by David E. Patterson, Deputy Director, Operational and Environmental Safety Division of the Assistant Secretary for the Environment, Washington, D.C., and Wiley Johnson, Chief, Safety Facilities Branch, Oak Ridge, Tenn.....	24

Alphabetical list of witnesses:

Bierbaum, Philip J.: Testimony.....	24
Letters from Philip J. Landrigan, M.D., Acting Director, Division of Surveillance, Hazard Evaluations and Field Studies, Department of Health, Education, and Welfare, to: R. J. Hart, Manager, Oak Ridge Operations, Department of Energy, October 12, 1979.....	53
Nate Hurt, general manager, Goodyear Atomic Corp., nuclear gaseous diffusion plant, Piketon, Ohio, October 12, 1979.....	59
Letters to Mr. Landrigan from James L. Foutch, attorney, Office of Chief Counsel, Department of Energy, Oak Ridge Operations, Oak Ridge, Tenn., October 25 and November 2, 1979.....	60
Froines, John: Testimony.....	24
Letter to Senator Glenn, with enclosure, July 31, 1980.....	50
Howard, James: Testimony.....	3
Johnson, Wiley: Testimony.....	24
Lightner, Ken: Testimony.....	3
Miles, John: Testimony.....	24
Mintz, Benjamin: Testimony.....	24
Patterson, David E.: Testimony.....	24
Peach, J. Dexter: Testimony.....	3
Prepared statement.....	11
Purswell, Jerry: Testimony.....	24
Voigt, William R.: Testimony.....	24
Staffing analysis for Safety and Environmental Control Division, Oak Ridge Operations Office.....	71
Prepared statement.....	83
Report on award fee procedure, Goodyear Atomic Corp.....	101

Additional material supplied for the record:

Report by the Comptroller General of the United States entitled, "Department of Energy's Safety and Health Program for Enrichment Plant Workers Is Not Adequately Implemented," July 11, 1980.....	331
--	-----

DOE'S SAFETY AND HEALTH PROGRAM FOR ENRICHMENT PLANT WORKERS

MONDAY, JULY 21, 1980

**U.S. SENATE,
SUBCOMMITTEE ON ENERGY, NUCLEAR
PROLIFERATION AND FEDERAL SERVICES,
COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, D.C.**

The committee met at 10:20 a.m., in room 3302, Dirksen Senate Office Building, Hon. John Glenn (chairman of the subcommittee) presiding.

Present: Senator Glenn.

Senator GLENN. The committee will be in order.

OPENING STATEMENT OF SENATOR GLENN

Senator GLENN. As part of its responsibilities in the areas of Department of Energy oversight and nuclear nonproliferation, this subcommittee has given ongoing attention to the development and operation of DOE's nuclear enrichment program. From the beginning of our nuclear program, the Atomic Energy Commission and now DOE, have had the responsibility to monitor both radiological and nonradiological matters at their three Government-owned, contractor-operated uranium enrichment facilities. Presently, this field of authority is exercised by DOE's Oak Ridge Operations Office.

However, over the past few years, certain questions have arisen concerning DOE's administration of health and safety regulations at its enrichment plants. This was one of the major issues in the long strike that occurred at the Portsmouth, Ohio, facility last year.

As a result of my concern over the Portsmouth situation, I requested the General Accounting Office to conduct an investigation into the adequacy of DOE's procedures for insuring that its health and safety standards were being met at all three enrichment facilities. That report has just been completed, and we are making its contents public today.¹

First, there is some good news contained within the study which shows that when compared to other similar industries, such as chemical manufacture, the plants' injury statistics and radiation exposures come off quite favorably.

Now the bad news. GAO concludes that DOE is not adequately monitoring and enforcing its health and safety standards for workers at the enrichment plants. Its three-tiered system of checks—inspec-

¹ See p. 331.

tions, appraisals, and complaint investigations—were found to be ineffective in assuring compliance with DOE health and safety regulations.

For instance, although DOE has conducted a recent inspection of the Portsmouth plant subsequent to GAO's review work, the last previous inspection was more than 3 years ago. DOE appraisals of contractor methods are described by the GAO as being inadequate because they occur too infrequently and rely on the contractor to provide the necessary information. Indeed, the Portsmouth facility has not been appraised for nuclear criticality or transportation safety since 1975. Moreover, DOE seldom takes action to insure that its recommendations resulting from appraisals are in fact being adopted by the contractor. That is why it took over 11½ years before one area of a building at Portsmouth was officially designated as a "red job" area, that is, a contaminated area.

Finally, in many cases DOE reverts employee complaints back to the contractor, from whom the person sought relief originally. Also, although DOE rules require a written response for every employee complaint, sometimes these grievances go unanswered, leaving the employee in the dark as to the validity and effect of his complaint.

Taken all together, these malfunctions in DOE's procedures impair the effectiveness of its health and safety program. Although there have been no catastrophes at these enrichment facilities, we cannot afford to be complacent in our desire to insure the health and safety of the workers at the enrichment plants. We must see to it that appropriate government and contractor action is taken in this regard.

Today this subcommittee will investigate what needs to be done to insure adequate compliance of health and safety standards at the enrichment facilities. We will examine DOE's problems with respect to organizational structure and staffing shortages in this area. We shall also examine the question of whether the present cost plus award fee contract agreement is adequate to assure contractor compliance or whether a system of nonreimbursable fines should be established for repeated contractor violations of health and safety practices.

If all else fails, we may have to consider the radical move of shifting DOE's responsibility in this area to another agency, such as the Department of Labor/OSHA, whose main mission, unlike that of DOE, is restricted to insuring that basic occupational health and safety standards are being met.

Another possibility might be to forge a cooperative agreement among DOE, OSHA, and NIOSH to establish a joint system of control to insure the health and safety of the workers at these plants is not being compromised.

In any case, we must clear up whatever problems do exist in DOE's enforcement of its worker health and safety standards. The uranium enrichment facilities are important for their contribution to both the civilian and defense nuclear industries. Their efficient and safe operation should be a top priority at DOE, not only for the roughly 11,000 people employed at the plants, but for the sake of the security of this country.

This morning our witnesses include, first, Mr. J. Dexter Peach, Director, Energy and Minerals Division, U.S. General Accounting Office. The next witness, Mr. Jerry Purswell, Special Assistant for

Scientific and Regulatory Affairs, OSHA, Occupational Safety and Health Administration, and Dr. John Froines, Deputy Director, National Institute for Occupational Safety and Health, Rockville, Md., and Mr. William Voigt, Director, Office of Uranium Resources and Enrichment, U.S. Department of Energy of Washington. He will be accompanied by Mr. David E. Patterson.

Mr. Peach, we will be glad to have you come to the witness table this morning to present your statement to us.

TESTIMONY OF J. DEXTER PEACH, DIRECTOR, ENERGY AND MINERALS DIVISION, U.S. GENERAL ACCOUNTING OFFICE, WASHINGTON, D.C., ACCOMPANIED BY JAMES HOWARD, ENERGY MINERALS DIVISION, GENERAL ACCOUNTING OFFICE, AND KEN LIGHTNER, TEAM LEADER

Mr. PEACH. Thank you, Mr. Chairman. I am accompanied by Mr. James Howard on my right, who is responsible for the nuclear work we do in the Energy Minerals Division of the General Accounting Office, and on my left, Ken Lightner, who is team leader for this particular assignment that we did at your request.

Let me try and briefly summarize the early portion of my statement which, again, highlights some of the matters you covered in your opening statement and then go into a little more detail about some of the areas of possible corrective actions.

Senator GLENN. Good.

Mr. PEACH. Let me first establish two frames of reference. First, the injury records for the three enrichment plants are better than injury statistics for similar types of operations, such as the chemical industry. To provide some perspective, the chemical industry, which has a history of taking a considerable interest in safety, has recordable injuries and lost work days due to injuries which are only about one-half the national average for all industries. In addition, radiation exposure records for the three enrichment plants indicate that employees are receiving less than maximum allowable doses.

On the other hand, the enrichment plants have experienced a number of potentially serious accidents and numerous releases of radioactive materials. Because the long-term effects of radiation and its relation to various forms of cancer are not specifically known, exposures to radiation, in any dose, and radioactive releases to the environment are of particular concern. The hazards associated with exposure to radioactive materials, of course, underscore the importance of strong efforts to protect worker safety and health at the enrichment plants.

In summary, our review raises concerns that current oversight of safety and health at the enrichment plants is not approaching the coverage required by the program. This is attributable, in part, to a shortage of safety and health staff at the Oak Ridge Operations Office over the past few years.

DOE's program to insure the safety and health of workers at the three existing plants involves: Plant inspections, appraisals of the contractor's in-house safety and health program, and investigations of employee complaints.

DOE's Oak Ridge Operations Office has fallen short of program requirements in each of these areas. The Operations Office has not conducted inspections and appraisals as frequently as required. Furthermore, when employees have exhausted the potential for contractor resolution of safety and health complaints and formally complained to DOE, the Operations Office has referred many complaints back to the contractor for resolution. In addition, the Operations Office has not followed up on many recommended changes resulting from complaint investigations.

We are also concerned that the Operation Office's safety and health group may not have sufficient enforcement tools nor the organizational independence needed to insure worker safety and health.

There are two good examples of the types of problems we found regarding physical inspections and appraisals.

First, DOE's safety and health program requires annual physical inspections of working conditions at each of the three enrichment plants. However, at the time of our review, DOE had conducted a total of only five inspections at the three enrichment plants during the past 4 years—the most recent in February 1978. As you mentioned, subsequent to our review, they have conducted two more inspections.

Second, we found that appraisals were not being conducted as often as needed. Appraisals are reviews of the operating contractors' overall safety and health programs.

In addition, appraisals of contractors' safety and health programs have not focused on major problem areas, many of which have been identified in employee complaints.

In other words, in those instances where an appraisal was done, it did not cover and followup on areas where complaints were made and known weaknesses existed.

Another problem area noted in our review concerns the investigation of employee complaints. Procedures for handling complaints encourage employees to seek resolution with the operating contractor. If the complaint is not resolved at that level, the employee may file the complaint with the Operations Office. DOE has, in many cases, delegated to the contractor complete responsibility for handling complaints received by DOE. Referral to the contractor often reverts the employee back to a situation from which he did not obtain resolution.

If DOE's program is to insure employee safety and health protection, it is imperative that the employee be offered an objective, independent review and that the complaint not be recycled to the contractor.

The Department's procedures do require a written response to each contractor employee filing a complaint. The response is to provide the results of the investigation or state why no investigation was made. The Oak Ridge Operations Office, however, did not provide a written response to 27 of the 92 complaints we reviewed.

Finally, DOE's ability to enforce safety and health standards is also an area for concern. DOE does not have a system of penalties or fines for safety and health violations. Currently, the primary leverage the Oak Ridge Operations Office can use to bring about contractor compliance with safety and health standards is to threaten cancellation of the contract.

The contracts for operating each of the enrichment plants stipulate that the contractor will operate the plant as directed, observing all

DOE regulations and standards. If the contractor does not comply to the satisfaction of DOE, the contract may not be renewed or could be canceled.

The cost-plus award-fee contract to operate the Portsmouth plant is somewhat unique and offers the Oak Ridge Operations Office the opportunity for more enforcement leverage than the cost-plus fixed-fee contract in effect for the Oak Ridge and Paducah plants. The cost-plus award-fee contract provides for the contractor to be reimbursed for all costs and paid a fee, or profit, based on its performance. The performance fee is based on various criteria, including production and safety criteria.

We believe the current use of the cost-plus award-fee contract for operation of the Portsmouth plant is limited, however, in its potential effectiveness as a penalty for noncompliance with safety and health standard. Only 6 percent of recent award fees were dependent on safety or health compliance. This was further diluted because the 6 percent was divided between the medical program, industrial safety, health physics, fire protection, transportation safety, et cetera. Thus, a safety violation or noncompliance with a recommendation in any specific safety or health area has little, if any, effect on the contractor's overall fee.

In comparison, the Occupational Safety and Health Act of 1970 provides that the Department of Labor may assess civil penalties of up to \$10,000 per violation for willfully or repeatedly violating safety and health standards. Fines of up to \$1,000 per violation may be assessed for individual safety and health violations, and fines of up to \$1,000 per day may be assessed for failure to correct a violation.

The Oak Ridge Operations Office is organized so that the responsibility for safety and health, and production are combined to interface with the contractors as one entity. The Operations Office's ability to independently and objectively administer a safety and health program at the enrichment plants is questionable because the responsibility for safety and health could be subjugated to the responsibility for producing enriched uranium. Although conscious tradeoffs of safety and health concerns for production goals have not been detected, the structure of the organization detracts from the status and perceived authority of the safety and health program. The closeness of the safety and health program to all phases of contractor relations may have also led to the situation where the Operations Office relies on the contractor to carry out the safety and health program without adequate Operations Office oversight or monitoring.

Various alternatives exist to more clearly separate the roles of safety and health, and production. As a minimum, the Oak Ridge Operations Office's safety and health organization could become directly responsible to the Oak Ridge Operations Office manager. While this would be an improvement, the manager would, however, still be responsible for production. Further independence could be provided by removing the safety and health program from Oak Ridge and placing it under a DOE headquarters organization.

A much more drastic alternative would be to allow an outside agency, such as the Nuclear Regulatory Commission or the Department of Labor, to administer the program. Such outside administra-

tion could better insure independence and since both agencies already have a system of penalties and fines, could increase enforcement ability.

To transfer this responsibility to the Nuclear Regulatory Commission, however, would require legislative changes. The Congress would have to rescind DOE's present authority and establish new authority with the Nuclear Regulatory Commission. Before the Department of Labor could administer the safety and health program, either DOE would have to agree not to exercise its present authority or the Congress would have to rescind DOE's present authority.

The problems facing DOE's safety and health program at enrichment plants raise concern about the adequacy and independence of the Department's entire safety and health program. We will soon be initiating a review of DOE's safety and health program at all its nuclear facilities. In the interim, however, we believe that several improvements should be made to improve DOE's oversight of workers' safety and health conditions at the enrichment plants.

Because the safety and health program at the Oak Ridge Operations Office is not being adequately implemented, we recommend that the Secretary of Energy take action to insure that plant inspections and appraisals are performed as DOE's procedures require, and that all employee complaints from those facilities are investigated and followed up by DOE's Oak Ridge Operations Office. We also recommend that the Secretary take action to provide increased independence and objectivity in the Oak Ridge Operations Office's safety and health program. Such action could be in the form of an organizational change to provide insulation between safety and health concerns, and production goals and objectives.

DOE's program would be strengthened if it had the authority to impose nonreimbursable fines and penalties for safety and health violations. DOE currently lacks such authority, and we believe that the Congress should authorize the Secretary of Energy to institute a program of fines and penalties similar to that contained in the Occupational Safety and Health Act of 1970.

The Department of Energy, in commenting on a draft of this report, expressed some concern that we focused on their oversight activities without reviewing their efforts to include safety as a factor in the design and construction of new facilities. The Department was also concerned that the contractor's safety and health program mitigates the need for extensive DOE oversight.

Nevertheless, we are pleased to note that DOE informed us that immediate action was being taken to correct the staffing inadequacies at the Oak Ridge Operations Office and to improve the followup on employee complaints. In addition, DOE indicated that the organizational location of the Oak Ridge safety and health staff is under review.

Mr. Chairman, your letter inviting us to testify here today requested that I address any difference noted between our assessment of the situation at the Portsmouth plant and that contained in DOE's September 18, 1979, and April 22, 1980, reports entitled, "Investigations of Health and Safety Conditions at Portsmouth Gaseous Diffusion Plant." These reports responded to worker allegations of unsafe conditions. As you know, our review focused on the adequacy of DOE's program to insure safety and health at all three enrichment plants, rather than on efforts to survey actual safety and health

conditions on a plant-by-plant basis. In examining the DOE reports, however, we are concerned that DOE relied on contractor-supplied data to refute the number of allegations regarding radioactive contamination. Many of the allegations are quite serious and involve potentially dangerous situations. We believe DOE's investigation should have certainly involved independent measurements and data collection.

That concludes my statement, Mr. Chairman. I and my colleagues would be pleased to respond to any questions.

Senator GLENN. Thank you very much, Mr. Peach. In your work with DOE, was there indication made to you that they lacked sufficient people or technically trained people, or equipment, or money? What is the reason why they have been relying strictly on contractor data in this very important area?

Mr. PEACH. Certainly one reason mentioned was a lack of staffing. I believe there were about five unfilled positions in the safety and health area at the Oak Ridge Operations Office at the time we were doing our work. That was one reason.

Senator GLENN. Does this inability to get trained people have to do with pay, or are there not that many trained people available in this particular field? What is the reason for the shortage, do you know?

Mr. PEACH. I think trained people are available. I am not sure of all the reasons of the positions weren't filled, but we did note that meant inspection positions were classified at a lower grade level at Oak Ridge. Each operations office does have responsibility for classification of their own positions.

Senator GLENN. DOE's phase I report on Portsmouth claims, "The contractual relationship allows DOE to exercise direct management control over contractor operations." It then goes on to delineate its system of checks. Furthermore, the study states, "DOE's requirements are, and always have been, at least as stringent and in many cases more stringent than those promulgated by DOL-OSHA." What is your assessment of this rather assuring assertion?

Mr. PEACH. We did not make a point-by-point comparison in our work of the Department of Energy standards and requirements and OSHA's standards and requirements. Our review showed that DOE requirements and the procedures they have established are reasonable procedures to follow. The problem we found is the laxity in implementing those procedures. Had they been followed and implemented in terms of doing inspections on the basis required, making the kinds of appraisals that should be made, doing the kind of followup that was required, and providing responses when individuals made complaints, I don't think we would have had the kind of problems that we express in our report.

Senator GLENN. Weren't there some 92 complaints and some 27 had not been replied to?

Mr. PEACH. Yes, sir, Mr. Chairman; 27 had no response back.

Senator GLENN. What was the reason given for that?

Mr. PEACH. We were not able to discern any specific rationales as to why they were not responded to. DOE's own procedures require a response.

Senator GLENN. That is what I thought. I wonder why they are not following their own procedures.

I wonder if you have been given any reasons.

Mr. PEACH. There is no reason I can give you.

Senator GLENN. Do you think there should be sort of an Inspector General setup in this area, one that would be more independent of the contractor and of DOE, perhaps?

Mr. PEACH. No, I do not necessarily think there is a need for that. Again I would like to see DOE adequately enforcing the existing procedures. Or alternatively, for those plants located a good distance from the Oak Ridge operations office, implement a resident inspection program. For example, the Portsmouth plant is located a distance away from the operations and would be a good candidate for a resident inspector office whereas the Oak Ridge plant would not.

Senator GLENN. What is your opinion of DOE's claim that its cost-plus-fee award acts as an incentive for the contractor, in that any failure to comply affects production, which in turn reduces the contractor's share of the rewards?

Mr. PEACH. I don't see that as being an adequate control in this area.

Senator GLENN. I don't remember the exact amounts of the fines you mentioned, but they sounded fairly low for the type of money we are talking about in these contracts. It seems to me it was more symbolic than anything else. Do you think a \$1,000 fine or even a \$10,000 fine is adequate really to induce the contractor to get going in these areas?

Mr. PEACH. Well, it might be a good question to ask the OSHA people when they are up, that is the level of fines that they can use.

Senator GLENN. In your view, if adequate staffing is provided at Oak Ridge, would this be able to strengthen the enforcement of DOE's regulations or are there inherent organizational frailties that would still get in the way of execution of what DOE is supposed to be doing?

Mr. PEACH. We suggest there are organizational changes also needed in order to give more independence to the health and safety people. The organizational structure that we saw had the health and safety people reporting to the same people who are also responsible for production. At a minimum, we think the health and safety people should report directly to the head of the operations office or even to someone in a separate position in DOE Headquarters.

Senator GLENN. The GAO report suggests DOE safety and health operation might be improved. If field personnel in the Oak Ridge Office were to report directly to the Oak Ridge Operations Office Manager, how would this get to the problem of potential conflict of interest, since the Manager is still responsible for production and has a close relationship with the contractor?

Mr. PEACH. That is a minimum alternative that we pose, Mr. Chairman. The problem you alluded to is still there. In effect, he does have responsibility for both the production facilities, as well as the health and safety requirement. Hopefully at this level he would have a broader overview of his total responsibility.

Senator GLENN. Do you think that responsibility should be split or changed?

Mr. PEACH. I think the option of reporting to someone separately at DOE Headquarters would provide a greater degree of safeguard. For example, they have the Assistant Secretary for Environment within DOE that has responsibilities in those types of areas.

Senator GLENN. What should be the relationship with OSHA? In your opinion, would a system whereby OSHA acts jointly with DOE, or as a consultant with some sort of monitoring powers, help assure that the contractor complies with recommendations resulting from inspections, appraisals or complaints?

In other words, should an outside agency in effect come in and participate?

Mr. PEACH. Certainly, from GAO's perspective, the idea of having an independent body, somebody who has no vested interest in that particular operation, come in and make inspections has a great deal of appeal.

Senator GLENN. Does DOE make independent readings or monitoring of radiation around the plant? Or do they rely strictly on the contractor?

Mr. PEACH. Basically they rely strictly on the contractor. They can make readings whenever they do their inspections.

Senator GLENN. Is DOE completely equipped to do that?

Mr. PEACH. Yes.

Senator GLENN. Do they have the actual physical equipment and people?

Mr. PEACH. They have equipment for people to do that type of monitoring.

Senator GLENN. Are there enough people to really do the job that has to be done? Why are they not doing independent readings now?

Mr. PEACH. Again, I think basically it is just a laxity that has crept into the program over time with a heavy reliance on the contractor and his program to carry out health and safety programs.

Senator GLENN. Do they check calibrations or do they check the system of contractor monitoring, which may be adequate? It seems to me there should be a check and a double check to make certain everything is accurate and this is accurate information.

Do you know whether they check calibration or check labs to see that these readings are taken on a regular interval?

Mr. PEACH. What they basically do, Mr. Chairman, is carry out appraisals of the contractor's health and safety programs. Often that relates more to a paper trail review to document how well the contractor is carrying out the health and safety program.

Again, the procedures that are required by DOE are reasonable. They can go in and make inspections, get independent measurements, and evaluate the contractor's program. Those things just aren't being done.

Senator GLENN. On page 12 of your report, you indicate the situation has been improving. Was this a result of some of the complaints that were made? Can you elaborate on that? In fact, I will quote:

DOE officials informed us that the Goodyear Atomic Corp. has not been safety-conscious in the past but the situation has improved.

Improved to what level? Is it adequate now, do you think? What further comments can you give us on that?

Mr. PEACH. I would suggest first, Mr. Chairman, that you follow up with DOE on that. That was information we obtained from the DOE staff in the context of trying to look at the question of a given number of actions that occurred at Portsmouth compared to other plants.

Senator GLENN. There seems to be a higher rate at Portsmouth. Can you give any reason for that?

Mr. PEACH. The one specific reason I can offer and it was one offered in the review of Portsmouth, is that they are processing highly enriched uranium, which is something they are not doing at the other two plants. So, given the kind of materials they may have to handle, it is very likely a spill may be a problem, a leakage may be a problem.

Senator GLENN. You indicate you are concerned about the adequacy and independence of DOE's entire safety and health program. You are going to review that program in the near future.

Can you tell us when we can expect to see a report on that subject?

Mr. HOWARD. We are just now starting that assignment. There have been several other congressional committees who have expressed interest in this job.

Senator GLENN. Is this 1 month, 6 months?

Mr. HOWARD. It is more like a 1-year study.

Senator GLENN. Are you aware of any instances in which DOE has granted its contractors variances from mandatory health and safety standards on the grounds funding was not available to correct the hazard?

Mr. PEACH. No.

Senator GLENN. Have there been variances issued for any other reason?

Mr. PEACH. None that we are aware of, Mr. Chairman.

Senator GLENN. Thank you.

[The prepared statement of Mr. Peach follows:]

UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

FOR RELEASE ON DELIVERY
EXPECTED AT 10:00 a.m.
Monday, July 21, 1980

STATEMENT OF
J. DEXTER PEACH, DIRECTOR
ENERGY AND MINERALS DIVISION
BEFORE THE
SUBCOMMITTEE ON ENERGY, NUCLEAR
PROLIFERATION AND FEDERAL SERVICES
OF THE
SENATE COMMITTEE ON GOVERNMENTAL AFFAIRS
ON THE
DEPARTMENT OF ENERGY'S SAFETY AND HEALTH PROGRAM
AT URANIUM ENRICHMENT PLANTS

Mr. Chairman and Members of the Subcommittee:

I welcome the opportunity to discuss the results of our review of the Department of Energy's (DOE's) program for ensuring the safety and health of workers at the Nation's three uranium enrichment plants. This review was undertaken at your request, Mr. Chairman, and our report entitled "Department of Energy's Safety and Health Program for Enrichment Plant Workers Is Not Adequately Implemented," 1/ has been issued to you. My prepared statement summarizes the findings, conclusions, and recommendations contained in that report.

In passing the Occupational Safety and Health Act of 1970, the Congress authorized the Secretary of Labor to establish and enforce national occupational safety and health

1/EMD-80-78, July 11, 1980.

standards. However, the act does not apply to other Federal agencies having statutory authority to prescribe or enforce standards or regulations affecting occupational safety and health. Under this exemption, DOE is responsible for establishing and enforcing occupational safety and health standards for DOE-owned, contractor-operated facilities, including the Nation's three uranium enrichment plants. DOE's safety and health program includes safety reviews of plant designs, construction reviews, preoperational reviews, and oversight of operating facilities. Oversight of the enrichment plants is the responsibility of DOE's Oak Ridge Operations Office.

At the outset, let me establish two frames of reference. First, the injury records for the three enrichment plants are better than injury statistics for similar types of operations, such as the chemical industry. To provide some perspective, the chemical industry, which has a history of taking a considerable interest in safety, has recordable injuries and lost work days due to injuries which are only about one-half the national average for all industries. In addition, radiation exposure records for the three enrichment plants indicate that employees are receiving less than maximum allowable doses.

On the other hand, the enrichment plants have experienced a number of potentially serious accidents and numerous releases of radioactive materials. Because the long-term

effects of radiation and its relation to various forms of cancer are not specifically known, exposures to radiation, in any dose, and radioactive releases to the environment are of particular concern. The hazards associated with exposure to radioactive materials, of course, underscore the importance of strong efforts to protect worker safety and health.

In summary, our review raises concerns that even the historical statistics regarding DOE's facilities may be somewhat misleading because current oversight of safety and health at the enrichment plants is not approaching the coverage required by the program. This is attributable, in part, to a shortage of safety and health staff at the Oak Ridge Operations Office over the past few years.

DOE's program to ensure the safety and health of workers at existing plants, such as the three enrichment plants, involves

- plant inspections,
- appraisals of the contractor's in-house safety and health program, and
- investigations of employee complaints.

DOE's Oak Ridge Operations Office has fallen short of program requirements in each of these areas. The Operations Office has not conducted inspections and appraisals as frequently as required. When employees have exhausted the potential for contractor resolution of safety and health complaints

and formally complained to DOE, the Operations Office has referred many complaints back to the contractor for resolution. Further, the Operations Office has not followed up on many recommended changes resulting from complaint investigations. We are also concerned that the Operations Office's safety and health group may not have sufficient enforcement tools nor the organizational independence needed to ensure worker safety and health.

INSPECTIONS

DOE's safety and health program requires annual physical inspections of working conditions at each of the three enrichment plants. However, at the time of our review, DOE had conducted a total of only five inspections at the three enrichment plants during the past 4 years. Without inspections, DOE cannot maintain full awareness of potential hazards and take prompt action to eliminate or mitigate the risk of accidents. We believe that a March 7, 1978, release of more than 10 tons of liquid uranium hexafluoride from a ruptured storage cylinder at the Portsmouth, Ohio, enrichment plant may have been avoided had DOE conducted on-site inspections and discussed safety and health concerns with employees.

APPRAISALS

We also found that DOE's Oak Ridge Operations Office was not conducting appraisals as often as needed. Appraisals are reviews of the operating contractors' safety and health

programs. DOE's Oak Ridge Operations Office has conducted appraisals more frequently than inspections, but not as often as necessary. For example, although Oak Ridge Operations Office officials believe health physics appraisals should be conducted annually, at the time of our review, the Oak Ridge and Paducah plants had not received such an appraisal since 1977 and 1978 respectively.

In addition, appraisals of contractors' safety and health programs have not focused on major problem areas, many of which had been identified in employee complaints. For example, more frequent appraisals or inspections might have avoided a contamination problem at the Portsmouth plant which existed for one and one-half years before corrective action was taken. In October 1978, the contractor's safety and health staff issued a report disclosing the problem. Subsequent appraisals of the contractor's program or on-site inspections conducted by the Oak Ridge Operations Office should have focused on this problem and revealed the lack of corrective action by the contractor. Instead, decontamination did not begin until after a January 1980 complaint by the Oil, Chemical, and Atomic Workers Union.

COMPLAINTS

Still another problem area concerned the investigation of employee complaints. Procedures for handling employee complaints encourage employees to seek resolution with the

operating contractor. If the complaint is not resolved at that level, the employee may file the complaint with the Operations Office. DOE has, in many cases, delegated to the contractor complete responsibility for handling complaints received by DOE. Referral to the contractor often reverts the employee back to a situation from which he did not obtain resolution. If DOE's program is to ensure employee safety and health protection, it is imperative the employee be offered an objective, independent review and that the complaint not be recycled to the contractor.

In addition, although DOE's procedures do not require followup on recommended changes stemming from employee complaints, that practice would constitute good management and would be an effective safety and health tool. For example, 33 of the complaints filed by enrichment plant workers resulted in DOE citing safety and health violations or recommending changes. Yet, the Oak Ridge Operations Office did not follow up on 28 complaints. Several complaints involved similar circumstances at one plant which may have been avoided if the Operations Office had verified implementation of its initial recommendations.

The Department's procedures do require a written response to each contractor employee filing a complaint. The response is to provide the results of the investigation or state why no investigation was made. The Oak Ridge Operations Office

did not provide a written response to 27 of the 92 complaints we reviewed. In cases where the Operations Office is at least partially in agreement with the complaint, it is important that the employee be informed of the action taken. In cases where no suggestions are forwarded to the contractor, it is equally important that the employee be informed as to why no changes are being recommended and that the employee be informed of his right to appeal the decision made by the Operations Office's safety and health personnel.

ENFORCEMENT NEEDED

DOE's ability to enforce safety and health standards is also an area for concern. DOE does not have a system of penalties or fines for safety and health violations. Currently, the primary leverage the Oak Ridge Operations Office can use to bring about contractor compliance with safety and health standards is to threaten cancellation of the contract. The contracts for operating each of the enrichment plants stipulate that the contractor will operate the plant as directed, observing all DOE regulations and standards. If the contractor does not comply to the satisfaction of DOE, the contract may not be renewed or could be cancelled. We believe, however, that non-renewal or cancellation of the contract does not provide the contractor with an immediate incentive to correct safety or health violations. Moreover, DOE's concern with other factors such as production may override any proposal to terminate a contract for safety and health violations.

The cost plus award fee contract to operate the Portsmouth plant is somewhat unique and offers the Oak Ridge Operations Office the opportunity for more enforcement leverage than the cost plus fixed fee contract in effect for the Oak Ridge and Paducah plants. The cost plus award fee contract provides for the contractor to be reimbursed for all costs and paid a fee, or profit, based on its performance. The performance fee is based on various criteria, including production and safety criteria.

We believe the current use of the cost plus award fee contract for operation of the Portsmouth plant is limited, however, in its potential effectiveness as a penalty for non-compliance with safety and health standards. Only 6 percent of recent award fees were dependent on safety or health compliance. This was further diluted as the 6 percent was divided between the medical program, industrial safety, health physics, fire protection, transportation safety, etc. Thus, a safety violation or non-compliance with a recommendation in any specific safety or health area has little, if any, effect on the contractor's overall fee.

In comparison, the Occupational Safety and Health Act of 1970 provides that the Department of Labor may assess civil penalties of up to \$10,000 per violation for willfully or repeatedly violating safety and health standards. Fines of up to \$1,000 per violation may be assessed for individual

safety or health violations, and fines of up to \$1,000 per day may be assessed for failure to correct a violation.

LACK OF PROGRAM INDEPENDENCE

The Oak Ridge Operations Office is organized so that the responsibility for safety and health, and production are combined to interface with the contractors as one entity. The Operations Office's ability to independently and objectively administer a safety and health program at the enrichment plants is questionable because the responsibility for safety and health could be subjugated to the responsibility for producing enriched uranium. Although conscious trade-offs of safety and health concerns for production goals have not been detected, the structure of the organization detracts from the status and perceived authority of the safety and health program. The closeness of the safety and health program to all phases of contractor relations may have also led to the situation where the Operations Office relies on the contractor to carry out the safety and health program without adequate Operations Office oversight or monitoring.

Various alternatives exist to more clearly separate the roles of safety and health, and production. As a minimum, the Oak Ridge Operations Office's safety and health organization could become directly responsible to the Oak Ridge Operations Office manager. While this would be an improvement, the manager would, however, still be responsible for

production. Further independence could be provided by removing the safety and health program from Oak Ridge and placing it under a DOE headquarters organization.

A much more drastic alternative would be to allow an outside agency, such as the Nuclear Regulatory Commission or the Department of Labor, to administer the program. Such outside administration could better ensure independence and since both agencies already have a system of penalties and fines, could increase enforcement ability.

To transfer this responsibility to the Nuclear Regulatory Commission would require legislative changes. The Congress would have to rescind DOE's present authority and establish new authority with the Nuclear Regulatory Commission. Before the Department of Labor could administer the safety and health program, either DOE would have to agree not to exercise its present authority or the Congress would have to rescind DOE's present authority.

RECOMMENDATIONS

The problems facing DOE's safety and health program at enrichment plants raise concern about the adequacy and independence of the Department's entire safety and health program. We will soon be initiating a review of DOE's safety and health program at all its nuclear facilities. In the interim, however, we believe that several improvements should be made to improve DOE's oversight of workers' safety and health conditions at the enrichment plants.

Because the safety and health program at the Oak Ridge Operations Office is not being adequately implemented, we recommend that the Secretary of Energy take action to ensure that plant inspections and appraisals are performed as DOE's procedures require, and that all employee complaints from these facilities are investigated and followed up by DOE's Oak Ridge Operations Office. We also recommend that the Secretary of Energy take action to provide increased independence and objectivity in the Oak Ridge Operations Office's safety and health program. Such action could be in the form of an organizational change to provide insulation between safety and health concerns, and production goals and objectives.

DOE's program would be strengthened if it had the authority to impose non-reimbursable fines and penalties for safety and health violations. DOE currently lacks such authority, and we believe that the Congress should authorize the Secretary of Energy to institute a program of fines and penalties similar to that contained in the Occupational Safety and Health Act of 1970.

The Department of Energy, in commenting on a draft of this report, expressed some concern that we focused on their oversight activities without reviewing their efforts to include safety as a factor in the design and construction of new facilities. The Department was also concerned that the

contractor's safety and health program mitigates the need for extensive DOE oversight. Nevertheless, we are pleased to note that DOE informed us that immediate action was being taken to correct the staffing inadequacies at the Oak Ridge Operations Office and to improve the followup on employee complaints. In addition, DOE indicated that the organizational location of the Oak Ridge safety and health staff is under review.

Mr. Chairman, in your letter inviting us to testify here today, you requested that I address any differences noted between our assessment of the situation at the Portsmouth plant and that contained in DOE's September 18, 1979 and April 22, 1980, reports entitled "Investigations of Health and Safety Conditions at Portsmouth Gaseous Diffusion Plant." These reports responded to worker allegations of unsafe conditions. As you know, our review focused on the adequacy of DOE's program to ensure safety and health at all three enrichment plants, rather than on efforts to survey actual safety and health conditions on a plant by plant basis. In examining the DOE reports, however, we are concerned that DOE relied on contractor supplied data to refute a number of allegations regarding radioactive contamination. Many of the allegations are quite serious and

involve potentially dangerous situations. We believe DOE's investigation should have certainly involved independent measurements and data collection.

That concludes my prepared statement. I would be happy to respond to any questions.

Senator GLENN. The next witness, Mr. Jerry Purswell, Special Assistant for Scientific and Regulatory Affairs of OSHA, Occupational Safety and Health Administration.

If we could, I believe maybe we will have the three remaining witnesses appear together since many of our questions are ones that do relate back and forth from one person to another. If we can have Dr. John Froines, who is Deputy Director, National Institute of Occupational Safety and Health and Mr. Phillip Bierbaum is with him. Mr. William Voigt, Director, Office of Uranium Resources and Enrichment, of the Department of Energy, accompanied by Mr. David Patterson. If you all came up, maybe we could have a roundtable here after we get done with your statements. Perhaps we don't have enough space at the table for everyone.

Mr. Purswell, we will be glad to have your statement.

TESTIMONY OF JERRY PURSWELL, SPECIAL ASSISTANT FOR SCIENTIFIC AND REGULATORY AFFAIRS, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, ACCOMPANIED BY BENJAMIN MINTZ, ASSOCIATE SOLICITOR OF LABOR, OSHA, AND JOHN MILES, ACTING FIELD COORDINATOR, OSHA; JOHN FROINES, DEPUTY DIRECTOR, NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH, ROCKVILLE, MD., ACCOMPANIED BY PHILIP J. BIERBAUM, DEPUTY DIRECTOR, NIOSH; WILLIAM R. VOIGT, JR., DIRECTOR, OFFICE OF URANIUM RESOURCES AND ENRICHMENT, U.S. DEPARTMENT OF ENERGY, WASHINGTON, D.C., ACCOMPANIED BY DAVID E. PATTERSON, DEPUTY DIRECTOR, OPERATIONAL AND ENVIRONMENTAL SAFETY DIVISION OF THE ASSISTANT SECRETARY FOR THE ENVIRONMENT, WASHINGTON, D.C., AND WILEY JOHNSON, CHIEF, SAFETY FACILITIES BRANCH, OAK RIDGE, TENN.

Dr. PURSWELL. Thank you, Mr. Chairman, for inviting the agency to appear before you today to comment on the GAO report entitled "Department of Energy's Safety and Health Program for Enrichment Plant Workers is Not Adequately Implemented."

With me today on my right, Mr. Benjamin Mintz, the Associate Solicitor of Labor for Occupational Safety and Health and on my left, Mr. John Miles, OSHA's Acting Field Coordinator.

My remarks today will provide context for this report by highlighting relevant aspects of the protections available to most workers under the OSHA program.

Under its enabling statute—the Occupational Safety and Health Act of 1970—OSHA has developed a number of enforcement and employer/employee assistance programs which have helped to reduce the incidence of workplace death and injury. There are restrictions on these programs, however, in areas regulated by other agencies.

In drafting the OSH Act, Congress was aware of existing Federal laws containing provisions affecting the occupational safety and health of a limited number of employees. To avoid overlap between

the OSH Act and these other laws, Congress included section 4(b) (1) which states that whenever another Federal agency exercises statutory authority to prescribe or enforce standards or regulations affecting occupational safety or health, OSHA does not apply. DOL interprets this section to mean that OSHA is preempted from enforcing its regulations for those particular working conditions covered by the other agency's standards or regulations.

The GAO report indicates significant differences in the ways DOE and OSHA operate their programs at the present time. In particular, the GAO raises questions about the frequency of inspections of the enrichment facilities, the manner of response to employee complaints, the application of available enforcement sanctions, and the subjection of the safety and health program to conflicting agency goals.

I believe it would aid in your evaluation of this report for me to briefly describe the relevant aspects of how we do business under OSHA.

First, I would like to address the area of complaints about working conditions.

OSHA responds to all complaints it receives about unsafe or unhealthful working conditions. The right of a worker to complain to the enforcement agency about unsafe conditions and to obtain abatement of those conditions is fundamental to the achievement of safe and healthful workplaces.

OSHA conducts approximately one-third of its initial inspections in response to complaints and has found that this policy has led to the correction of thousands of hazards.

OSHA employs two methods in its response to complaints. When complaints are formal—that is, when they are written and when they are submitted by an employee or employee representative—OSHA conducts an inspection of the workplace and the alleged hazardous condition when an evaluation of the complaint reveals there is reason to believe a violation exists.

Other complaints—called informal complaints—are dealt with in two ways. First, if an imminent danger or a very serious hazard is alleged, OSHA conducts an inspection. However, if an alleged danger is not so serious, an informal complaint is handled by sending a letter to the employer, advising him or her of the complaint.

The employer is requested to abate the hazard within 30 days and notify OSHA that he or she has done so. Alternatively, the employer may explain why the complaint is invalid. The complainant receives copies of OSHA's correspondence with the employer and is requested to notify OSHA if the alleged hazard has not been abated. OSHA will inspect in any case where there is doubt about the employer's response; and, as a check on this system, inspects in response to such complaints in any event in one out of every 10 cases.

Throughout this process, employee anonymity is guaranteed, and the act provides specific protections against reprisals for employees who exercise their complaint rights.

In complaint inspections, as in virtually all OSHA inspections, there is no advance notice of inspections.

OSHA complaint inspections focus on the hazards alleged by workers, but the compliance officer is instructed in highly hazardous indus-

tries to look for other hazardous conditions although they were not the subject of the complaint. The compliance officer may interview employees as to the working conditions and their exposure to specific hazards. An employee complaint may thus result in a comprehensive inspection of an entire workplace or of a significant part of it.

Second, in the area of frequency of inspection, in addition to complaint investigations and inspections made to investigate worker fatalities or other accidents, OSHA also conducts discretionary—or general schedule—inspections. To use staff time most effectively, the agency's field personnel have been directed to focus 95 percent of their discretionary compliance activities on those workplaces in industries where the most serious and most frequent injuries and illnesses are likely to occur.

OSHA's targeting system, however, lacks specific workplace information of the sort that is available to DOE for its uranium enrichment facilities.

It is difficult to say how often OSHA would schedule discretionary inspections in the Portsmouth plant if it were under our jurisdiction. The size of the facility and the type of work being done argue for frequent inspections. Complaints by workers would, however, be a major factor in scheduling. That is, where, as here, the number of complaints by workers from this establishment is greater, OSHA policies on the comprehensiveness of complaint inspections would obviate the need to schedule the normal number of discretionary inspections.

Senator GLENN. It seems to me if you are operating in a plant where there is mechanical equipment, there are obvious things that a worker can see are dangerous to his health and safety. They are mechanical devices and he can observe them.

In a plant like this where there are radiation hazards, are the employees instructed or are they adequately trained so that you can rely only on their own complaints in setting up a monitoring program? In other words, you rely very heavily on worker complaints in the whole OSHA process. How do you do this in other places where OSHA is monitoring chemical plant, where the hazard is not tangible? I might walk through a field of radiation that might blast me completely and I wouldn't even know it.

Dr. PURSWELL. I think the point you raise is very valid. That is why OSHA has been very active during this current administration in funding the development of training programs for workers so that they can recognize and understand those hazards to which they are exposed. We have funded worker and employer organizations as well as universities which are developing materials to acquaint workers with such hazards. The "ripple effect" of our training programs will, I think, go a long way in making sure employees are able to recognize hazardous conditions in their own workplaces.

Senator GLENN. Unless you have very sophisticated instrumentation, you would not know some of the major hazards even existed in some plants. Let's say there was a spill and a lot of radiation in a certain area. I could walk right through it, slop through it, walk through liquid with my feet and not know it was anything but water. It might be devastating. What do you do about that? How do you take care of inspections or train people or give them equipment so they know what the danger is in a particular plant?

It seems to me that would be a very difficult thing to do.

Dr. PURSWELL. I think you are correct. Mr. Miles, who is in charge of coordinating our field operations, has had much experience with responding to worker complaints about possible hazardous conditions.

Mr. MILES. It has been our experience that while employees may easily recognize problems with belts, pullies, and things like that, they don't always recognize radiation hazards. Employee uncertainty about invisible hazards makes up a good percentage of the complaints we receive. OSHA follows up on these complaints by conducting inspections with sophisticated equipment and trained compliance personnel. A spill in a facility like this would normally be expected to be a very hazardous situation.

Senator GLENN. That is an extreme case. I presume most of the situations in a plant like this would be less than the actual spill you would observe. That is something visual. What if there is a leak behind a wall I can't see, and I walk along that wall? I don't know how you set up monitoring systems for things like that.

Mr. MINTZ. As Dr. Purswell indicated in his testimony, OSHA conducts many inspections on the basis of complaints. That is an important part of our program. However, in addition to complaint inspections, OSHA makes investigations of work places even though no worker complaint has been filed. We call those discretionary or general schedule inspections. That means we would go to a plant, typically one with known high hazards, such as a plant with radiological hazards, and inspect with our monitoring equipment to detect precisely the extent to which these hazards exist. That type of inspection would not be brought about by an employee complaint. It would be something that we have scheduled in our discretion based on the inspection targeting system that we have developed.

Senator GLENN. Go ahead. Mr. Voigt, we might want you to comment later as to how you follow up on things like that.

Dr. PURSWELL. Certainly that is a very valid point and one that needs to be emphasized in worker training and education.

Twenty-seven complaints which might have triggered inspections under the criteria that I previously stated were made in 1978, and five in 1979, in the facilities studied by the GAO. The GAO report indicates that many of these complaints were written reports from employees, in which instance we would have responded to it with an onsite inspection.

It should also be noted that the agency has a policy requiring followup inspections in those cases when the initial inspection resulted in serious citations being issued. Sometimes the backlog of complaints at an area office may prevent OSHA from reinspecting in every case. However, the agency always requires that a cited employer send written notification about actions taken to abate cited hazards.

Now, I would like to turn to the question of enforcement.

Congress created in the OSH Act a strong penalty deterrent to achieve voluntary compliance by employers. In our experience, a monetary penalty is the most effective incentive for employers to correct hazardous conditions prior to an OSHA inspection. OSHA's Federal and State enforcement personnel inspect less than 4 percent of the Nation's work sites every year. Voluntary compliance with OSHA

must therefore be the norm rather than the exception if safety and health are to be safeguarded. Without first instance sanctions, one of the most important incentives for voluntary compliance would be lost, and self-enforcement would be severely curtailed.

Moreover, the relatively small number of employers who operate recklessly must be dealt with firmly and effectively. In these cases, first-instance sanctions are needed to establish the credibility of the agency through the power to assess a monetary penalty the first time a hazard is identified during a compliance inspection.

Thus, not only does OSHA require timely abatement of violations of safety and health standards, but it also imposes penalties of up to \$10,000 for willful and repeated violations. All serious violations carry penalties of up to \$1,000 and unabated violations may be penalized at a rate of \$1,000 per day. Criminal penalties are also available in certain instances.

Mr. Chairman, we have not had an opportunity to evaluate the GAO report in detail, to consider fully its recommendations, or to evaluate the actions which the DOE is taking to respond to this report and other criticisms of its program. We will be reviewing this material, along with any additional recommendations GAO may have as a result of its projected examination of the entire DOE safety and health program, in light of the strengths which we believe are contained in our own program. We will not hesitate to recommend whatever actions are necessary to assure that all workers are provided safe and healthful working conditions.

Mr. Chairman, this concludes my prepared statement. I would be pleased to answer any questions you may have.

Thank you.

Senator GLENN. One thing I would like to ask is, under OSHA's mandate, are there other facilities you monitor or inspect that are similar in nature to uranium enrichment plants, where you monitor radiation problems comparable to these?

Dr. PURSWELL. I would like Mr. Miles, our field coordinator, to comment on that.

Mr. MILES. In a few instances we have assisted DOE in inspecting some of these facilities. In facilities where the NRC has jurisdiction for radiation, we inspect for other safety and health hazards. However, we do not measure radiation levels in workplaces covered by DOE or NRC radiation regulations.

Senator GLENN. In these facilities. Yes, I know that. Do you have comparable facilities elsewhere where radiation is the major problem you are concerned about that you do monitor?

Mr. MILES. There are no comparable facilities for which we have enforcement authority for radiation, although we do cover other safety and health hazards. We conduct only a few radiation inspections. Since we lack authority in most places, NRC and DOE are the primary Federal agencies with responsibility for regulating exposure to radiation. We do have people on our staff, physicians and hygienists, that can monitor radiation safety and health.

Senator GLENN. How about uranium mines or other—I am a little bit surprised you indicate you don't really get into this radiation monitoring much. It seems to me it is something very common in the chemical industry now. You don't monitor those?

Dr. PURSWELL. Our sister agency, the Mine Safety and Health Administration, has responsibility for the safety and health regulation of uranium mining.

Mr. MILES. We do have a small amount of authority for radiation enforcement, for instance, we monitor for X-ray exposure in the workplace. However, if an employer is working with materials licensed by the NRC, then responsibility belongs to the Nuclear Regulatory Commission as the license source.

Senator GLENN. How about X-ray machines? Do you monitor or test their manufacture, or is that under FDA?

Mr. MILES. Product testing of X-ray machines, microwave ovens, et cetera, is conducted by FDA. However, OSHA checks on the proper use of these products after they are installed in the workplace.

Senator GLENN. Don't they have to check them out to make sure the machines work?

Mr. MILES. No, Senator, product testing is under the FDA's authority.

Senator GLENN. Let's go on with the other statements.

Dr. John Froines, Deputy Director, National Institute for Occupational Safety and Health. Dr. Froines?

Dr. FROINES. Thank you. I am pleased to appear today to review the status of the investigation being conducted by the National Institute for Occupational Safety and Health, NIOSH, at the Uranium Enrichment Plant in Piketon, Ohio. Accompanying me is Mr. Philip J. Bierbaum, Deputy Director of the NIOSH Division which is conducting the investigation.

I would like to begin with a brief discussion of the NIOSH programs, particularly research we have conducted on worker exposure to ionizing radiation.

NIOSH, a component of the Center for Disease Control, was established by the Occupational Safety and Health Act of 1970. Under that act, NIOSH is responsible for conducting research, recommending occupational safety and health standards, performing health hazard evaluations at the request of workers or employers, and conducting training and education programs. NIOSH has similar responsibilities to protect the health of miners under the Mine Safety and Health Act of 1977.

Since the 1950's, NIOSH and its predecessor organizations have conducted research on worker exposure to radon daughter products in uranium mining and milling operations. This work first identified the lung cancer program among American uranium miners and has been central to the setting of radon daughter standards for uranium mines. This research was also instrumental in developing field methods for measuring radon daughters, procedures for engineering controls, and medical monitoring procedures for the diagnosis of lung cancer.

In 1976, NIOSH published a current intelligence bulletin warning of radon daughter exposures in caves maintained by the National Park Service and making recommendations for protecting workers. In early 1978, at the request of the Congress, NIOSH began an epidemiologic study of the effects of radiation exposure among workers servicing nuclear submarines at the Portsmouth Naval Shipyard at Kittery, Maine. That study of 27,000 workers, the largest ever conducted by NIOSH, is scheduled to be completed late this summer.

That study evaluates worker exposure to substances such as asbestos and benzenes well as radiation.

I might say that is always a problem we run into when investigating radiation exposures—there may be other exposures which may be hazardous and may yield diseases similar to those associated with radiation exposure.

A team of NIOSH industrial hygienists has also surveyed nine other Navy shipyards. A report of their findings will be included in the final Portsmouth study. NIOSH also has a research grant with Dr. Thomas Mancuso, who is investigating possible health effects of exposure to radiation at the Hanford Atomic Works. Last year NIOSH participated in the Government's response to the emergency at Three Mile Island. NIOSH is working with the Nuclear Regulatory Commission to develop a registry of workers employed at Three Mile Island during the accident and through the period of decontamination and cleanup.

In June 1979 NIOSH received a request from the Oil, Chemical and Atomic Workers International Union to determine whether workers at the uranium enrichment plant operated by the Goodyear Atomic Corp. in Piketon, Ohio, had suffered from effects of radiation exposure. The union, which represents workers at this plant, was particularly interested in learning whether the workers had high cancer death rates.

Workers in uranium enrichment plants are potentially exposed to internal alpha radiation through inhalation or ingestion of radionuclides. OCAW also requested that NIOSH evaluate operating procedures that involve occupational exposures other than radiation. NIOSH agreed to assist the union by evaluating working conditions and the incidence of occupational disease at the plant. Because a strike was in progress at the time, there was a delay of several months before the Department of Energy, which owns the plant, was willing to permit NIOSH to visit the plant.

Senator GLENN. Why was that?

Dr. FROINES. At that time, DOE felt that since the union and management were in contract negotiations, that a simultaneous study of worker health would be inappropriate and requested that we delay our study until the completion of the strike. We disagreed with that point of view, and have pursued the matter since then.

Senator GLENN. I would think so, too. The danger goes on whether there is a strike or not.

Dr. FROINES. That is basically our view as well.

Senator GLENN. Go ahead.

Dr. FROINES. On November 28, 1979 NIOSH conducted an initial walk-through survey of the Piketon facility. The visit enabled NIOSH investigators to decide that it would be possible to conduct a study at the plant, where over 8,000 workers have been employed since it began operations in 1954. This is a relatively large population with sufficient years since initial exposure for chronic diseases to become manifest.

Extensive records are available from GAC and the Department of Energy that identify all present and former employees along with their employment histories. Records also are available documenting various radiation exposures, including urinalysis reports—to show

inhalation of alpha radiation or ingestion of radioactive substances—in vivo scanning, that is, whole body counting, film badge readings—to show gamma and beta radiation—and environmental measurements. Such dose information can be used to divide the study population into different categories of exposure.

After the initial visit, NIOSH began to design a retrospective cohort mortality study and industrial hygiene study of the worker population. The mortality study involves obtaining a list of all workers who have ever worked at the plant.

The vital status of these workers—that is, whether they are dead or alive—is obtained from Social Security Administration records as well as records from other Federal and State agencies. Death certificates for deceased individuals, obtained from the State vital statistics offices, are used to determine the underlying cause of death. By use of a computer program, the cause of death of plant workers will be compared with that of the U.S. population of the same race and sex during the same period of time.

NIOSH has assembled a master file of all present and former GAC employees from information provided by the GAC personnel department. This master file includes name, social security number, date of birth, race, sex, date of first and last employment and a detailed work history of all active employees. The names and social security numbers have been submitted to the Social Security Administration to begin the vital status followup.

Arrangements will soon be made to microfilm the inactive personnel records at GAC so that the work histories of these individuals can be added to the master file. The Department of Energy is publishing a "routine use" statement in the Federal Register that will permit them to release radiation exposure information to NIOSH. The epidemiologic study will take from 1 to 2 years to complete.

NIOSH is also preparing to conduct an industrial hygiene investigation at the plant to evaluate exposures to chemical and physical agents. We will be looking for exposures to uranium as a heavy metal, nickel, various types of insulating materials, solvents, welding fumes and noise, as well as radiation. In addition to identifying current exposures, we will attempt to document past exposures.

Because it will not be possible for NIOSH to survey the entire plant, we have asked GAC and OCAW to identify areas and jobs that are of particular concern. The industrial hygiene surveys cannot begin until NIOSH industrial hygienists receive special "Q" security clearance from DOE, which generally takes from 6 months to a year. After clearances are obtained, the industrial hygiene study will take approximately 6 months.

Our immediate goal is to assure that workers at the Piketon plant are adequately protected. We will evaluate work practices and control procedures and make any recommendations we consider necessary to limit worker exposures. The epidemiologic study should show whether these workers are at greater risk of dying from cancer than the general population. If there is an excess risk, we will determine whether that risk can be associated with specific occupational exposures, such as radiation. We hope that the results of our study will provide further information about the health effects of chronic expo-

sure to low-level radiation, one of the most important, and difficult, public health problems today.

We will be pleased to answer any questions you or members of your committee have about our investigation at the Piketon plant.

Senator GLENN. Before we go on to Mr. Voigt's comments for DOE, could you spell out for us the exact relationship between NIOSH and OSHA and how much of the radiation monitoring you do in different plants that would be comparable to this. First, the direct relationship between NIOSH and OSHA? You are a research-oriented group. That is your mission in life. OSHA checks the day-in, day-out workplace. What is your working relationship day-in and day-out with OSHA?

Dr. FROINES. We were established under the Occupational Safety and Health Act of 1970, as was OSHA. Our primary mandate is to carry out research to make recommendations to OSHA on health and safety. I think it is important to stress, however, there are two other areas that we pay particular attention to. One is that at the request of employers, employees, other Federal agencies we will carry out technical assistance, health hazard evaluations to determine whether in a particular plant there are problems. So it is a mixture of research and problem solving, if you will.

Third, we are also concerned with the training and education of occupational safety and health professionals. To get directly to your question, we really have a day-to-day relationship with OSHA. It is very important for the two agencies to work very closely, especially because NIOSH has some areas of expertise and experience which generally are not held by OSHA. That is we have extensive experience in the area of epidemiology and toxicology. We have many more resources to carry out clinical evaluations, and we have a significant number of highly specialized industrial hygienists.

In that respect, we can supplement and provide assistance to OSHA.

Senator GLENN. Organizationally, administratively, you are not under OSHA?

Dr. FROINES. No, we are under the Department of Health and Human Services.

Senator GLENN. Mr. William Voigt, director, Office of Uranium Resources and Enrichment of DOE. Mr. Voigt.

Mr. VOIGT. Thank you, Mr. Chairman. I would like to identify two individuals that are accompanying me today. To my immediate left is Mr. Wiley Johnson who is Chief of the Safety Facilities Branch of our Oak Ridge Operations Office, Oak Ridge, Tenn. To his left, is Mr. David Patterson, Deputy Director of the Operational and Environmental Safety Division of the Assistant Secretary for the Environment, Washington, D.C.

The Department of Energy and its operating contractors are committed to the health and safety of employees at the enrichment plants. The health and safety programs at these plants have been more than adequate to insure the safety and health of the contractor employees. The safety performance records of the enrichment facilities clearly show that the DOE/contractor programs are far superior to comparable industry programs.

Based on data prepared by the National Safety Council, the DOE's enrichment "facilities accidents" and "lost workday case safety" statistics have always been far better than the chemical industry.

And we use the chemical industry as somewhat analogous with our enrichment operation.

In 1978, for example, the enrichment plant's work-related injury statistics are lower than the chemical industry by a factor of four, and all industries generally by a factor of eight.

I might add, Mr. Chairman, for the period 1976 through 1980, that a comparable number would be 0.57, which likewise shows that we are at least a factor of three different from the chemical industry.

Likewise, I think the committee should be aware that the employee radiation control records at our three facilities are as equally impressive. We have not exceeded any exposure to workers in excess of either DOE or NRC standards. In my statement today, I will be covering three specific areas, that being the structure of DOE's health and safety programs; second, DOE action—steps to investigate and correct identified health and safety problems; and third, our comments on the GAO report.

Turning now to the first points, the structure of DOE's health and safety program, I think it is clear that the safety records that we have achieved at these plants for some 30 years of operations reflect the results of basic philosophy of the safety program, which is to design health and safety into plant operating procedures, equipment and facilities, thereby eliminating potential hazards from the normal working environment. In practice DOE adopts OSHA standards as a part of the DOE standards and criteria. In fact, in some cases we are as stringent if not more.

As the committee is aware, the three enriching plants are extremely large facilities with a replacement cost of about \$15 billion. Of the total 11,500 employees at these plants, 300 employees are directly involved in the performance of safety functions. At the three plants we are currently spending about \$14 million per year in operating dollars for health and safety activities. We expect the health and safety portion of our budget to increase to about \$17 million by 1982.

In 1980, we are also spending over \$6 million on health and safety general plant projects and have initiated approximately \$40 million in health and safety related capital projects, including \$8 million for OSHA-type projects. This level of expenditure for health and safety activities at the enrichment plants attests to DOE's strong commitment to the program.

Within DOE, the Assistant Secretary for Environment has the overall responsibility for setting health and safety standards and policy. It is through the Assistant Secretary for Environment that various DOE orders and directives regarding health and safety are issued to all of DOE, including the program offices in headquarters and the various field installations. The Office of the Environment also oversees compliance with these orders.

In the case of the three enriching plants, I have been assigned the ultimate responsibility for the enrichment program including health and safety performance. In turn, I have assigned to the Oak Ridge Operations Office responsibility for implementation of the uranium enrichment program and for the responsibility complying with all applicable DOE orders and directives including those for health and safety.

As the committee is aware, the Oak Ridge Operations Office has a contract with the nuclear division of Union Carbide Corp., UCC-ND,

to operate the diffusion plants in Oak Ridge, Tenn., and Paducah, Ky., and with the Goodyear Atomic Corp. to operate the diffusion plant at Portsmouth, Ohio. The contractors operate these facilities under a cost-plus-fixed-fee, or an award-fee arrangement.

Both Union Carbide, Nuclear Division, and Goodyear Atomic are paid a fee for providing a service only—they have no financial interest per se in the plants. Upon issuance of headquarters' orders and directives, the field installations, and Oak Ridge being one of them, issue their own supplemental instructions to their operating contractors setting forth local responsibilities and authorities plus any specific instructions on compliance with the headquarters' policies and objectives.

The health and safety program operates on the philosophy that line management within the contractor's organization and DOE's program management are responsible for assuring the health and safety of workers. Safety staffs at all levels are generally independent of any program or production responsibilities. Their role is to advise and recommend to the responsible DOE contract administrators health and safety policy procedures and standards, and to identify the resources necessary to assure a safe and healthy work environment.

The staff of the Safety and Environmental Control Division of Oak Ridge provides this service in the area of health and safety. If at any time a conflict develops between the contract administrator and the responsible staff organization, it is instantly referred to the operations office manager for resolution. As the ultimate decisionmaker for field operations, the manager then objectively balances the positions of both parties.

I think it is fair to say, Mr. Chairman, that we regulate the health and safety program at the enrichment plants in a different environment than that usually experienced by DOE or NRC.

Our system operates on the concept that we identify the objectives to the contractor, and the contractor develops the various means of meeting the objectives together with the needed resources. It is, therefore, the contractor's expertise and staff which are primarily relied upon to develop and execute the programs but all under the direction and consent of the operations office.

Accordingly, the small Oak Ridge staff which has about 650 Federal employees, works with the contractor's staff to establish priorities and identify needed resources. This is in contrast to the relationship between a regulatory agency and private industry, in that DOE has a continual presence in the enrichment plants and provides the resources for all safety activities and improvements.

Turning now to the second point that I mentioned earlier, what are DOE's actions and steps that we are using to investigate and correct identified health and safety problems, DOE has a policy of reviewing and, when necessary, conducting onsite investigations of health and safety complaints and allegations.

Since Oak Ridge started this program in 1975, they have received a total of 126 complaints from all ORO contractor employees. Of the 126 complaints, 92 were from employees of the 3 diffusion plants. The Oak Ridge Operations Office handled all the complaints except 27, or 21 percent, which were referred to the contractor for more expedient resolution.

Although the complaint system has not uncovered significant problems, since 1975, Oak Ridge has conducted 33 onsite investigations; 21 percent of these investigations uncovered violations of standards.

A recent example of actions taken by the DOE to investigate health and safety allegations at the enrichment plants is the special DOE investigating committee established by the Assistant Secretary of Resource Applications, to whom I report, to investigate allegations and health-safety complaints raised by the local Oil, Chemical & Atomic Worker's (OCAW) Union at Portsmouth.

These complaints were sent in a letter to Senator Metzenbaum. The Department was advised last July by a letter from Senator Metzenbaum that the union had reported that certain health, safety, and environmental controls and procedures were not being followed by the operating contractor of DOE's Portsmouth enrichment plant. As a result of this, we established a committee composed of top level managers from the Oak Ridge Operations Office, my program division, as well as from the Office of Environment. This committee conducted an extensive review of the Goodyear Atomic Corp.'s health and safety procedures and policies including a week of onsite investigations performed last February.

During the investigation, the committee inspected all major process and support buildings at the Portsmouth plant and interviewed a number of hourly employees, supervisors, health and safety personnel, and union officials.

The results of the investigation were published by the Department in two reports, a phase I report issued September 18, 1979, and a phase II report issued April 22, 1980. Copies of these reports have been given to this committee and were formally transmitted to Senator Metzenbaum on May 22. I don't think at this point in time, although it is in the detailed record, Mr. Chairman, that I will cover the phases of this study, although I should point out that of the many issues that were of concern, we could only substantiate 2 out of the total of 28 allegations, while 3 were partially substantiated.

In addition, as the committee reviewed the safety and health conditions at the site, they did point out additional items which were not covered in the letter from the unions and we addressed these in our final phase II report.

Following our standard procedures for implementing findings of investigation, Goodyear Atomic has been directed to develop an action plan to implement the recommendations of the committee as soon as possible, and to report to DOE's Oak Ridge Operations Office monthly on the progress.

I hope that this discussion on DOE's policy to investigate employee health and safety complaints, as well as the other special investigations performed, adequately reflects to the committee our determination to investigate aggressively and correct promptly any observed deficiencies in the health and safety programs at the enrichment plants.

Turning now to our specific comments on the GAO report—

Senator GLENN. Before you go on, you say of these, only two of the employee complaints were substantiated, three partially substantiated. After you made this analysis, did you notify them? And what

were the comments of the employees? These were all written complaints, I guess?

Mr. VOIGT. That is correct.

Senator GLENN. Did you reply to all of those?

Mr. VOIGT. This is Mr. Saire, who heads up my diffusion plant operations.

Mr. SAIRE. Mr. Chairman, the allegations received by the DOE were not those of the employees, but those received in the letter from Senator Metzenbaum. So the investigation followed through these allegations and responded directly to Senator Metzenbaum. A copy of the letter was provided to—

Senator GLENN. How many written complaints did you receive?

Mr. VOIGT. It was only one letter from Senator Metzenbaum.

Senator GLENN. How many letters did you receive from the employees directly?

Mr. VOIGT. None with this particular complaint. The letter was sent to Senator Metzenbaum.

Turning now to our comments on the GAO report, Mr. Chairman, as the committee will recognize from my earlier comments on the DOE health and safety program, the report focuses only on a part of the DOE health and safety activities at the enrichment plant; namely, implementation of the oversight/enforcement functions under the responsibility of the Oak Ridge Operations Office.

Before I provide specific comments on the conclusions and recommendations contained in the report, I would like to address the section of the report which provides information on accidents and release of process gas, uranium hexafluoride, at the enrichment plants. The report cites the 11 industrial accidents that have occurred at the plants since 1970, a period of 10 years.

Three of these accidents were the result of employees not following prescribed procedures. Six were the result of electrical or mechanical equipment failure, and one could be classified as an operating problem. Contrary to GAO statements in the report, it is doubtful, in our view, that any of the above accidents could have been prevented by more frequent inspections or assessments by the Oak Ridge Operations Office.

Only one accident, the dropping of a large UF₆ cylinder from a straddle carrier, in our view, might have been prevented by a timely safety assessment; however, it is highly unlikely that a plant safety inspection would have identified a faulty clamp on a straddle carrier.

To be properly understood, the amount of UF₆ accidentally released and the total number of UF₆ releases, must be considered in terms of the amount of UF₆ handled. Since 1970, about 7,000 kilograms of uranium were released out of a total of 145,000,000 kilograms of uranium processed in the plants. This is a fractional loss of 0.005 percent. And I might add that 6,000 of those 7,000 kilograms were lost from one cylinder drop accident.

In my opinion, this is an excellent operating record.

Turning specifically to the GAO report, they state that while inspections are required each year from 1976 to 1979, the DOE has conducted only five OSHA-type inspections at the three enrichment plants.

Senator GLENN. Let me ask a question here. How toxic is this UF₆?

Mr. VOIGT. It can be considered as a heavy metal. In other words, just like any ingestion of a heavy metal, heavy metal poisoning would be a concern. Because it is radioactive, that's a concern, too.

Senator GLENN. 7,000 kilograms were released?

Mr. VOIGT. That is correct.

Senator GLENN. What would a 7,000 kilogram release do? Is that enough to kill a person or 500 people? I don't have a feel for the magnitude.

Mr. JOHNSON. Perhaps I can answer the question. Uranium hexafluoride is a very soluble material. I would like to explain about uranium hexafluoride itself. It is a uranium compound. When it comes in contact with the air it forms another compound of uranium, UO₂F₂, and also forms HF, which is a toxic irritant, lung irritant. Now the compound itself is very soluble in body fluids and it has a very short biological half life in the body. If you were exposed to UF₆, the primary concern would be the acid irritant in the lungs. The uranium itself passes quickly out of the body. Traditionally, it has less than a 120-day half life. That is a factor in our statistics which show that no one in the history of our diffusion operations have ever been exposed above standards by UF₆ as released.

Primary problems in the nuclear industry are from the insolubles, such as oxides, which are not routinely encountered in gaseous diffusion operations.

This apparently large quantity has been released over a long history, since the early forties.

Senator GLENN. When this is in the body, though, is it more likely to form cancer? What is the effect on the body?

Mr. JOHNSON. The effect is one of toxicity to the kidney. If you were exposed to UF₆, you would look for damage to the kidney first.

Long-term effect would have to be evaluated by extreme lung studies in epidemiology over 20 years—

Senator GLENN. What is the effect on the kidney? Do they stop functioning? Is there partial functioning, or are they more likely to get cancer?

Mr. JOHNSON. No, primarily acute damage to the kidney which would show up immediately in the form of albumin in the urine. Furthermore, the degree of exposure can be determined by bioassay analyses which then relates how much material has been taken into the body and, therefore, you can compute the dose of the critical organ, which in this case would be the kidney.

Senator GLENN. I am just trying to get at what the effect of this 7,000 kilograms release might be. If it is highly toxic, if people die immediately from exposure, even a small amount is not acceptable, obviously.

Mr. JOHNSON. Again you have to put it into perspective. In any case when one is exposed to UF₆, the bioassay takes place to make sure no one exceeds a permissible level or standard.

Senator GLENN. Did anyone exceed that standard in the accidents that happened there?

Mr. JOHNSON. No, sir, not any over the years.

Senator GLENN. Go ahead.

Mr. VOIGT. Since the OSHA-type inspection program began in fiscal year 1975, DOE's Oak Ridge Operations Office has actually conducted 11 inspections (three at Oak Ridge, four at Paducah and four at Portsmouth). Because of the shortage of health and safety professionals in 1978 and 1979, the Oak Ridge Operations Office was forced to reduce the number of inspections in those years to place emphasis on higher priority health and safety activities.

As indicated in the Department's formal response to the GAO, steps are now being taken to increase health and safety staffing levels at Oak Ridge. I am also pleased to report, Mr. Chairman, since the GAO review was performed that health and safety inspections have been performed at each of the enrichment plants.

Regarding GAO's comment that DOE does not independently check radiation levels in the plant during inspections, the Department has on several occasions considered the merits and cost effectiveness of such a program. However, in view of the excellent radiation exposure history at the plants, the nature of the material handled, and the extremely low levels of radations involved, we do not believe such a program is warranted.

Senator GLENN. Let me ask, you say in view of the excellent radiation exposure history at the plants, how do you know that if you are not measuring it?

Mr. VOIGT. The contractor performs the measurements on a daily routine basis. Each of the individuals that are in a radiation field are equipped with film badges and dosimeters so, hence, we do keep reports of the exposure of the people to radiation.

Senator GLENN. Are all the people in the plant in a position to have radiation exposure? Are all of them badged? Are all dosimeters and other equipment checked?

Mr. VOIGT. I will let Mr. Johnson answer that.

Mr. JOHNSON. The DOE regulations specify that anyone who has potential for exposure in excess of 10 percent of the applicable guides which would be the NRC regulations be monitored. At Goodyear, not all employees are monitored, just those who are at risk.

The Oak Ridge facilities, due to the nature of the Carbide complex there, monitor all employees. However, we have two backup monitoring systems to make sure that our programs are effective.

We in-vivo count all employees at risk in all of our facilities. Also routine bioassay monitoring is done for all employees at risk, that is who work with the process. We do not monitor secretaries, accountants, people who do office work, or who have no occasion to visit the plant processes.

Senator GLENN. How much checking of the contractor radiation monitoring system do you do? Do you check the calibration, for instance, of their equipment?

Mr. JOHNSON. Yes.

Senator GLENN. How often is that done?

Mr. JOHNSON. This is done periodically through routine appraisals. At Oak Ridge we have a reactor called a DOSAR. Through that reactor, we measure our film badges of all of our facilities, including those outside Oak Ridge. We evaluate the calibration film, what we call TLD's. We check calibration of equipment, we monitor the use of X-rays, accelerators, all types of facilities. We evaluate the con-

tractor's programs, what program have they set up, and we check that program and through the cooperative relationships between the Oak Ridge National Laboratory, the Oak Ridge associate universities, Carbide Corp., Goodyear Corp. we make sure there is compatible consistent criteria applied to dosimetry.

Mr. VOIGT. Turning now to health and safety appraisals, the frequency of health and safety appraisals is governed by DOE order 5482.1. This order allows DOE's field managers the latitude to vary the frequency of appraisals depending upon the nature and level of risk involved in the operation. While I agree with the GAO statement that Oak Ridge Operations Office appraisals at the enrichment plants may not have been conducted as often as would have been possible with proper staffing levels, there is no factual evidence to support the GAO conclusion that " * * * appraisals have not been performed as often as necessary to insure employees safe and healthful working conditions." It is our belief that the excellent safety records of these plants provide a much better indicator of the working conditions at these facilities.

Turning now to the complaint system, GAO states that DOE, in many cases, " * * * has delegated complete responsibility for handling complaints received by DOE to the contractors." The receipt of a complaint by DOE does not automatically imply that the individual desires an independent review. On many occasions, we have found that the individual was not aware of the channels available at the plant to investigate and resolve such complaints. It is our policy not to refer a complaint to the plant for action without the full consent of the employee.

Over the period covering fiscal years 1973 to 1980, 92 employee complaints were received by the Oak Ridge Operations Office. Evaluation of the complaints resulted in the Department or the contractor investigating 52 of the complaints. Of the complaints investigated, only six were found to involve safety or health violations. Although DOE's procedures do not specifically state that followup is required to assure that proper action was taken or complaint investigations, we agreed with the GAO recommendation that it is a good management practice to do so. Therefore, we are taking steps to formalize the system by maintaining complete and auditable records on follow-up actions for each employee complaint investigated.

The GAO report also recommends that Congress authorize the Secretary of Energy to institute a program of nonreimbursable fines and penalties for contractor safety and health violations. There is serious concern that such a system would not be workable under existing Government-contractor contractual arrangements for operation of the gaseous diffusion plants. In our opinion, the incentive of the award-fee contract, that DOE is now employing at the Portsmouth plant, is an effective way to penalize the contractor for unacceptable health and safety performance. Under the award-fee contract, the overall performance rating of the contractor, and the resulting fee, could be seriously impacted by his performance level on health and safety matters. We believe that the degree of reduced fee payments that could result from poor performance would exceed OSHA's maximum penalty for health and safety violations.

Senator GLENN. Let me interrupt. Are you required to reply in writing to a written complaint?

Mr. VOIGT. Yes, sir.

Senator GLENN. I don't understand what you were talking about then. Why would there be a situation where you would not do a followup, if you are required to reply? You would have to do some sort of investigation, wouldn't you?

Mr. VOIGT. Not in every case, Mr. Chairman. Let me just cite one, and I don't mean to cite this—

Senator GLENN. On the top of page 15 it says:

Although DOE's procedures do not specifically state that followup is required to assure that proper action was taken on complaint investigations, we agree that it would be good management practice to do so.

If you are required to comply with a written complaint, there must be something.

Mr. VOIGT. I am citing one complaint as something indicative as one we don't follow through on, on a formal written basis, that is having silverfish in the shower. We have passed that on orally to the contractor that, indeed, let's try to eliminate the silverfish but not in terms of responding directly to that complaint by a written letter.

Senator GLENN. Was that an official written complaint that you had silverfish in the shower?

Mr. VOIGT. That is correct.

Senator GLENN. I think one like that could be resolved pretty rapidly. How about more important ones?

I think it would be a very little problem to make a written reply, "We sprayed the silver fish."

Mr. JOHNSON. Let me respond.

Senator GLENN. On problems of a more serious nature, radiation loss, for example, did every complaint receive a written response?

Mr. JOHNSON. All written complaints, with the exception of a batch of 20, have received an immediate on-site investigation. Since it was my job to do many of these, I am familiar with most every case, and I have a log of all of these. Of the 92, I think we received approximately 50 some odd which were written. We also get many by phone calls, some by conference in my office, some by referrals. In many cases, the problem is resolved immediately. I will get a phone call, there is oil on the floor. I contact the contract administrator and the plant, ask the safety plant to look into it. The problem is corrected the day it was observed in many cases. It is not prudent and efficient to dispatch a team on a problem like oil on the floor, a scaffold that has something broken about it. That can be solved by a phone call to the plant. In those cases where it would appear there might be a violation of a standard or violation of a plant procedure, we have instigated employee evaluations onsite. We have done something like 33 major investigations of this kind.

At the Goodyear plant, in 1978, we dispatched a team of four individuals who spent 2 weeks onsite and looked at 104 complaint issues. In no case where there is a perceived or apparent serious problem have we referred this to the contractor. In all cases we asked the complainant if we could refer it to the plant health and safety staff. In most cases they haven't even consulted the health and safety staff or their supervisor or their foreman. And we think for efficiency and

fast, rapid correction it is prudent in many cases to refer this to the contractor.

Senator GLENN. I am not sure I understand this business of silverfish in the shower or oil on the floor. Ordinarily, if you have a spill of oil on the floor, you get a rag and wipe it up.

Mr. JOHNSON. Absolutely.

Senator GLENN. Did someone make a formal complaint to you about spilled oil? Was this a special type of radioactive oil?

Mr. JOHNSON. No, ordinary oil. We receive complaints 20 at a time, sometimes 40, which obviously come from a shift or group of workers who have some concern. A lot of these complaints are—we have a form called 628. Some are unsigned. Some have one word on it like heat. Some have a foreman's name and say harassment. These are official, recorded, received complaints to the DOE. Now, what does the DOE do about that—

Senator GLENN. When you are looking at these complaints, how many do you consider to be frivolous as opposed to ones that are of real substance with a danger to workers that should be corrected immediately?

Mr. JOHNSON. Half are frivolous. Of those 92 we have investigated or received and looked at in detail, we found in about 22 cases were there violations of a plant procedure. According to my count, which is a difference to the testimony, about eight were violations of standards. Some of the comments in the GAO report talk about forklift. That problem was solved the same day we got it. It seems like we were criticized for not following up on something that was resolved the same day it occurred.

Procedurally, it is true that we have not written letters to every complainant but we can do that. But in no case have we let a serious condition go in a capricious manner without addressing it.

Senator GLENN. Go ahead and finish your statement.

Mr. VOIGT. Turning now to another GAO recommendation that there ought to be insulation between the safety and health concerns and production goals and objectives, although the existing organizational structure at Oak Ridge does separate the enforcement of health and safety from enrichment production operations. In recognition of concerns in this area, I have been working with the manager of the Oak Ridge Office to review possible changes regarding the organizational location of the health and safety staff at Oak Ridge to provide further independence.

Although we have not made a decision, we expect to do so in the very near future, Mr. Chairman.

The report also recommends that Congress authorize the Secretary of Energy to institute a program of nonreimbursable fines and penalties for contractor safety and health violations. There is serious concern that such a system would not be workable under existing Government-contractor contractual arrangements for operation of the gaseous diffusion plants.

In our opinion, the incentive of the award-fee contract, that DOE is now employing at the Portsmouth plant, is an effective way to penalize the contractor for unacceptable health and safety performance. Under the award-fee contract, the overall performance rating of the contractors, and the resulting fee, could be seriously impacted by his per-

formance level on health and safety matters. We believe that the degree of reduced fee payments that could result from poor performance would exceed OSHA's maximum penalty for health and safety violation; in fact, within the award-fee concept for the Goodyear plant.

About 10 percent of the fee could be attributable to health and safety. This factor could mean as much as \$100,000 going or not going to Goodyear.

That concludes my remarks, Mr. Chairman. I think based on the past performance that we do have excellent health and safety standards, and we plan to continue to exercise with diligence to assure that any deficiency is corrected as soon as possible.

I will be happy to respond to any additional questions the committee may have.

Senator GLENN. On the attachment to your statement, "The Enrichment Plant Safety Record Versus Industry," these would be physical injuries?

Mr. VOIGT. Yes.

Senator GLENN. We are very concerned of course, and in conversations I have had with the workers in times past, they have been concerned about radiation hazard that is not just a straight physical injury. I think your statistics would indicate it is comparatively safe to work in a plant like this as far as physical injury on site.

How do you rate, or do you attempt to rate radiation hazards in addition to this other type safety record? How do you do that? That is of longer term and bigger concern, I think, to the workers, than the fact somebody may slip and fall down.

Mr. JOHNSON. With respect to the radiation statistics, as we stated before, we have had no overexposures due to radiation that is in excess of applicable standards. In fact, we are so low nowadays we are within what we call the Alara concept. We have not had any nuclear critical accidents at our facilities.

We have had no overexposure to radiation, so our record pretty much speaks for itself. In all of Oak Ridge operations, we have had something like 104 fatalities. I am not real sure if it is not 105. But none of these due to radiation from all of our facilities, that is including the National Lab and others. So with respect to radiation, we are very proud of our record.

Senator GLENN. Those 105 fatalities were industrial accidents?

Mr. JOHNSON. Industrial accidents. Thirty percent were by electrocution, and 30 percent were by falls or being struck by something. We had some fatalities due to asphyxiation from ordinary chemicals.

We actually had one by gunshot, which was an accident by a security force. So statistically we show with respect to fatalities, it is more dangerous to carry weapons for security than radiation. I don't mean to say that facetiously, but we are proud of our radiation record.

Senator GLENN. Have there been a greater number of accidents at Portsmouth?

Mr. JOHNSON. If one looks at the records, prior to 1975, there were more UF₆ releases at the Portsmouth facility than others.

After 1975, it is fairly well divided. There is not a statistical difference at our installations. We have had some concern about UF₆ releases, and a UF₆ committee was formed in the early seventies to

study uranium releases. Some 14 subcommittees were appointed to look into all UF₆ operations. These 14 subcommittees generated over 100 recommendations. These, for the most part, have been implemented, and our record from 1975 to present shows only one major accident, the dropping of a cylinder in 1978.

Senator GLENN. The GAO report says a physical inspection of each plant is required annually. DOE has conducted only five inspections at the three enrichment plants during the past 4 years. You gave some figures on that, I believe, in the testimony. Do you want to respond further to that?

Mr. JOHNSON. Yes. That number was speaking strictly of the OSHA-type inspections; that is, the unannounced OSHA inspections. Since the GAO report, we have already completed all of the inspections at the diffusion plants.

Senator GLENN. Further in that statement, it says:

When inspections have been conducted, they have not included checking radiation levels in the plant. Thus, DOE cannot be sure it is aware of potential hazards and take prompt action to eliminate or mitigate the risk of accidents.

I don't see how you go into a plant like this and declare it safe without checking radiation levels.

Mr. JOHNSON. One must understand we are not dealing with irradiated fuel. This is primarily an alpha contaminant we are dealing with, a contained material within a diffusion complex. If one is experiencing releases, one has very serious operating problems. These things are known and controlled by the contractor. If one carries a radiation instrument in to monitor, one already knows what the levels are going to be. We have throughout the complex a variety of instrumentation which is maintained by the contractor, such as emergency alarm system, radiation detecting equipment, dosimeters, a variety of devices maintained by the contractor, very sophisticated equipment.

It would be rather meaningless for the DOE to try to maintain extensive laboratory facilities to try to duplicate that which is already in existence.

Senator GLENN. Do you check their equipment?

Mr. JOHNSON. We check their equipment, we check their calibration. We check the design of the instrument, the coverage of the instrument, the intervening shielding. We are involved, first, with the design of the complex.

Senator GLENN. The checking of their equipment; how often is that done?

Mr. JOHNSON. Generally this is done annually.

Senator GLENN. Is that done separately from the inspections?

Mr. JOHNSON. Yes.

Senator GLENN. There have been five inspections in 3 years at four plants. Are the inspections of radiation monitoring equipment done more often?

Mr. JOHNSON. This is done annually during our routine appraisal of the health programs. Since 1975, we have done more than 130 inspections. This includes industrial hygiene, health physics, nuclear criticality safety, fire protection, routine safety programs, emergency preparedness. So we are on site fairly frequently in a variety of ways. Since we operate within the same office, there is quite a bit of cross-

fertilization between staff and the operating division. We have a pretty good handle of what is going on in our plants.

So it is true that we haven't kept up with the surprise OSHA inspections because we consider this of lesser importance than conducting regularly scheduled appraisals when we go into depth of the kind of programs that are being instituted by our operating contractors.

Senator GLENN. There are 92 complaints on file. There was no written response to 17 of them. Were those substantive or were they of the silverfish variety?

Mr. JOHNSON. They were not substantive. I have in my other briefcase a complete ledger of these and some of those related to such things as stop signs in the parking lot, oil on the floor.

Senator GLENN. Were any of the 27 of major importance?

Mr. JOHNSON. None of them involved major injuries, or involved potential of exposure to radiation.

Senator GLENN. Under regular OSHA rules, can any employee request an inspection of his or her workplace by giving notice to a compliance office?

Mr. MILES. Yes, any employee or employee representative can file a formal complaint with OSHA.

Senator GLENN. If OSHA was running an operation like this or checking on these three enriched uranium facilities, how would you see your system differing from that of DOE?

Mr. MILES. If our evaluation of the complaints revealed that a violation might exist, we would schedule an onsite inspection. In addition, our statute allows the employees to walk around with us during our investigation. I understand that the employees are not always allowed to accompany the inspector during DOE's investigations. And, of course, we may propose monetary penalties if violations are discovered. Our penalties, depending on their seriousness, may be as high as \$1,000 or \$10,000 per violation. In some cases, when numerous violations were found, our penalties have been as high as \$800,000.

Mr. MINTZ. Mr. Chairman, if I may add to that?

Senator GLENN. Sure.

Mr. MINTZ. When OSHA conducts an inspection of a workplace and violations are disclosed by that inspection, the law requires that OSHA issue citations to that employer. These citations describe the violations that have been found and set a specific abatement date for the correction of those hazards. Also when appropriate, OSHA proposes monetary penalties for those violations. OSHA does have a system of following up on those citations to determine if the correction, as required by the citation, has taken place. If correction hasn't taken place, OSHA law provides for daily penalties of up to \$1,000 for those failures to abate on the part of the employer.

Mr. MILES. One other thing, we do respond back to the complainant with information about what we found. If we did not find the complaint valid, we also notify the employee who may appeal that decision to the regional administrator, the supervisor above the local office.

Senator GLENN. The GAO report says:

On February 4, 1974, the Department of Labor formally accepted AEC's arguments that it has and was exercising the required statutory authority to enforce

its own occupational safety and health programs at its contractor-operated facilities.

In a letter from Assistant Secretary Bingham to Assistant Secretary of Energy Ruth Clusen he says:

Based on our review of DOE's actions to date, we believe workers at Portsmouth may not be receiving appropriate safety and health protection. In light of this finding, we are considering the possible recession of the AEC-DOL letter of understanding and are contemplating an onsite investigation of worker complaints at Portsmouth.

That seems to suggest there is some question as to what DOE statutory authority is in this matter. Can you tell us what OSHA's view is of that statutory authority?

Mr. MINTZ. Mr. Chairman, may I take a moment to explain the statutory framework of OSHA? OSHA law is comprehensive and covers all private workplaces in the country. However, there is a section 4(b) (1) which provides in pertinent part that the act does not apply to working conditions of employees with respect to which other Federal agencies exercise statutory authority to prescribe or enforce standards or regulations affecting occupational safety or health.

In other words, where another Federal agency has exercised statutory authority regarding safety or health with respect to a particular condition that will presumably protect the employees and OSHA will not apply.

In 1974, OSHA was responding to a view stated by the then-Atomic Energy Commission that it had, under section 4(b) (1), exercised statutory authority regarding occupational safety and health in those plants that were regulated by the Atomic Energy Commission.

The Labor Department responded to that letter from the Atomic Energy Commission, recognizing the letter's view as to what its authority was. In other words, we understood that they believed they had that authority and we said that the memorandum did make a presentation regarding their authority. Now that was in 1974. Since then, as you know, there have been several transfers of the authority of the Atomic Energy Commission; different agencies have taken over. Dr. Bingham's letter to which you refer, Mr. Chairman, said that some time has passed since then and it would be appropriate to review the entire situation regarding the interplay between the various statutory authorities under section 4(b).

Senator GLENN. That was going to be my next question. What is the status of the arrangements for such a meeting? She said, "Before we take any action in this case, I would like to arrange a meeting to discuss our mutual responsibility." What is the status of that meeting?

Dr. PURSWELL. The Department of Energy has provided us with its investigation report regarding the health and safety of the workers at Portsmouth. We have been evaluating that report. We anticipate that we will be going back to ask for further information from the Department of Energy. We expect that our review will be completed within the time frame of 2 to 3 weeks. After that time, depending on how much information we receive to complete our evaluation, we could then be prepared for a meeting or ask DOE for additional information.

Senator GLENN. There was a DOE order, No. 5483.1, which was put out in April 13, 1979, which says, "To admit OSHA employees

on safety and health matters to DOE GOCO facilities." In light of that, wouldn't OSHA investigation at Portsmouth necessarily mean a rescission of that AEC-DOL letter of understanding or just not indicate there are already cooperative methods underway to get OSHA inspection there in addition to DOE inspection. Are you aware of that DOE order?

Mr. VOIGT. Mr. Patterson can respond to that.

Mr. PATTERSON. Yes, there is such an order. In a few places, there have been cooperative inspections. However, as a legal matter, the Department of Labor has not had the legal authority when they go in on those cooperative inspections. We need to explore this much more. Originally when the OSHA Act was passed in 1970, we explored the possibility of a cooperation arrangement for quite a while with the Department of Labor. One of the problems was a matter of approved State plans and how we could get State inspectors into our plants which were under the national security requirements, and this presented a problem.

Senator GLENN. Are you saying additional legislation is needed before this DOE order could be carried out to admit OSHA employees?

Mr. PATTERSON. I think we are always happy to have OSHA employees come into plants. However, under the current legislation, as we interpret it, they do not have the authority to issue citations or to impose fines when they come into those plants. When they come into plants, they are coming in as a matter of comity to give us the benefit of their experience and advice and assist our people.

Senator GLENN. Mr. Purswell, let's say OSHA received a complaint from Portsmouth or one of these plants. Do you feel that you have authority to go in under this DOE order and respond to that complaint?

Dr. PURSWELL. Mr. Chairman, I was not informed of this DOE order prior to the hearing. We would be very interested in reviewing that order. I think the point has been well made, though, that we would have a problem in terms of the enforcement of any citations that we might issue because the person receiving the citation could allege we did not have the authority.

Senator GLENN. I understand that, as far as the ability to levy fines, that might require additional legislation. Where you would be bringing your expertise to bear in supplementing DOE's efforts, I think that would be of value to everybody.

Dr. PURSWELL. Certainly, Senator.

Senator GLENN. Have any measures been taken to determine whether the threat or implementation of nonreimbursable fines and penalties for safety and health violations have resulted in improvements in worker health and safety conditions? Has this been your major tool?

Dr. PURSWELL. We certainly have been able to measure overall improvement in industry. The general incident rate has been considerably reduced since the time the act was passed. We have, in addition, been conducting targeting projects that would permit us to examine the impact of the act on specific industries. We are very anxiously waiting for the outcome of those projects to guide us further.

Senator GLENN. Let's say we want to supplement some of DOE's efforts. Do you think you would be best qualified to do that in the radiation field or would NRC be a better agency for that?

Dr. PURSWELL. I am not that familiar with the NRC's programs. I might comment we do have a very high level and high quality analytical laboratory available to us, as well as high-level training of our staff. I think we could participate effectively in a radiation program.

Senator GLENN. What is OSHA's reaction to DOE's claim in its phase I report on Portsmouth that its own system of checks—

Result in close attention to and better control over health and safety than that which would result if the contractor activities were under the jurisdiction of DOL-OSHA, whose scope and control are more restricted.

That is a quote out of their phase I report. Would you agree with that?

Mr. MINTZ. Mr. Chairman, OSHA operates in a regulatory framework as set by the Congress in the Occupational Safety and Health Act and that regulatory framework is set out in considerable detail in the law itself. It includes inspection activities, it includes mandatory response to complaints, it includes citations, and it includes penalties, including daily penalties which add to a considerable amount of money in some situations. Central to the OSHA concept of regulation is this idea of first instance sanctions, which means that an employer is subject to penalties on first inspection for violations of the law.

The Congress understood, as it certainly turned out to be, that OSHA could not possibly get to all workplaces that exist in the country, given limited resources and a large number of workplaces. Therefore, the system of fines is for the purpose of giving employers incentive to obey the laws, before the OSHA arrives there to conduct an inspection and issue citations and penalties. OSHA has worked under that concept.

Senator GLENN. That is a very effective tool, I agree. Spread as thin as you are, we would hesitate to add more problems for you by giving you responsibilities like Portsmouth and Oak Ridge. You are already inspecting some 4 percent of the workplaces per year. That means, if we put them on a regular rotational basis, each place could expect to get an inspection once every 25 years.

Mr. MINTZ. There is a provision in the act for general schedule inspections and under that system, OSHA may not get to certain workplaces that frequently. However, upon receiving valid formal complaints, we have the obligation to respond as soon as practicable and we have issued a field directive which requires those inspections to take place very quickly depending on the nature of the hazard. Thus, the dangerous hazards are responded to within 24 hours, for example.

Senator GLENN. What is your analysis of DOE's penalties system, relying on cost plus award fee to persuade contractors to abide by the prescribed standards?

Dr. PURSWELL. I think it is a bit confusing to me at this point. I heard the GAO say they found only a very limited percentage of the award fee would be involved in health and safety. I heard the DOE say a larger percentage would be involved, perhaps 10 percent of the fee. I would question whether even 10 percent of the fee might be adequate if there were serious hazards to be dealt with.

Senator GLENN. This is on another subject. What impact is the Supreme Court ruling on benzene having on OSHA rules and regula-

tions? If OSHA went in to set standards for radiation exposures in the plants, is there some similarity there that might prevent you from really doing the job in a radiation type situation that you would otherwise have done?

Mr. MINTZ. Mr. Chairman, we have been spending a great deal of time over the last couple of weeks understanding the many opinions of the Supreme Court in the benzene case. Stated very simply, the plurality opinion said that in issuing standards, OSHA had to make a threshold finding of significant risk in order to impose a standard upon court review. We hope that OSHA will be able to regulate, as it had done in the past, through its occupational safety and health standards. Now, in the course of doing so, we have certain burdens of proving significant risks which we will have to meet in order to validate those standards before the Court. But it is our hope and our intention to proceed to reach the same levels of protection that we had in the past by marshaling this additional evidence the plurality opinion required.

Senator GLENN. You have reduced exposure down to zero, right?

Mr. MINTZ. In the case of benzene, we had reduced the permissible exposure level to one part per million. The Supreme Court plurality did not suggest it could never be a proper level. They said that in order to meet our burden of proving the propriety of that level, we would have to present more evidence than we had and make certain findings regarding the significant risk of harm from benzene to which employees have been exposed.

Senator GLENN. Wouldn't that same type analysis, though, apply in a radiation situation, such as we are talking about here?

Mr. MINTZ. The Supreme Court plurality applied its decision to all our occupational safety and health standards, as I understand it. There are standards currently in effect regarding radiation.

Dr. PURSWELL. Yes, we have standards that are comparable to those of DOE.

Senator GLENN. What problems has NIOSH encountered in its attempts to gain access to the Portsmouth facility?

Dr. FROINES. I think we addressed the primary issue. It has, of course, been resolved. At this point the tragedy is that our investigation was delayed over an extended period of time during the negotiation about entry.

The DOE and the contractor were concerned about the strike. Clearly, that delay has caused a delay in our starting up our study. Presumably that won't occur in the future.

Senator GLENN. DOE Oak Ridge was directed "to establish procedures to admit NIOSH representatives to all DOE GOCO facilities for safety and health inspectors." That was by DOE order 5481.3 and that was in April 1979. That was not effective in gaining you access, is that correct?

Dr. FROINES. Apparently the DOE took a position that the strike would prevent us from doing initial walk-throughs and from making initial investigations. They were particularly concerned about participation by union representatives in those walk-throughs and in some of the earlier meetings. Because of that objection, there was a delay. Therefore, that particular order did not seem to have had any effect in facilitating our entry.

Senator GLENN. There were people still in the plant during that period of time, is that correct, even though there was a strike going on?

Dr. FROINES. There were supervisory personnel operating the plant.

Senator GLENN. Do you want to comment on that, why access was not permitted?

Mr. VOIGT. Mr. Chairman, I believe the discussions of NIOSH getting in the plant was over a period of time from about July to November. The problem that was encountered and the reason for the initial delay in the NIOSH visit was attendant to the fact that the union was out on strike, we were in the collective bargaining process, the representation that the union wanted to be present with NIOSH at the visit, consisted of nine members of the bargaining unit. We objected to this. At a subsequent meeting we had with union leadership in Washington, we said, yes, indeed, the problem was not the visit, it was the number of people in the collective bargaining unit that would be represented. We restricted it to three representatives and then I directed the Oak Ridge office to proceed with the visit and that took place in November.

Senator GLENN. Can you describe any observations reached by NIOSH from that November walk-through at Portsmouth?

Dr. FROINES. We have made an initial response to the allegations of the union, but we have not developed any data thus far to suggest what the outcome of our studies are going to be.

The adequacy of some of the health and safety efforts of the contractor and DOE will in part be determined by our investigation which has begun now.

I think it is unfortunate that it will take as long as it will to determine something about the adequacy of monitoring efforts.

Senator GLENN. Do you have enough information now to determine the extent of radiation hazards present at Portsmouth?

Dr. FROINES. No, we do not have sufficient information at this point to determine that. This is an epidemiologic study which will take a period of time, as I said before, about a year or two to complete, at which time we can say more about the results.

Senator GLENN. Do you plan to go in with independent measuring equipment, or do you plan to check contractor measuring equipment for adequacy? How do you plan to conduct your investigation?

Dr. FROINES. We do plan to carryout an industrial hygiene investigation to determine the adequacy of the existing equipment and of the existing procedures, but for the most part, the largest aspect of this study will include looking at the death records of the employees to determine if there is an excess risk of lung cancer or other disease associated with work at that facility. That is the most important check at one level.

The other check is to determine whether the actual in-plant industrial hygiene is being carried out in adequate fashion. That is something we will be looking at on a day-by-day basis as soon as the Q clearances come through.

Senator GLENN. How long is that going to take?

The report indicated that it will be 6 months to a year before you get Q clearance.

Dr. FROINES. Apparently 6 months to a year, I think, at a minimum, to do that. It is going through the channels one normally—

Senator GLENN. How many people are involved?

Dr. FROINES. Four people.

Senator GLENN. It shouldn't take 4 years—

Mr. BIERBAUM. That is standard DOE operating procedures.

Senator GLENN. That is too long, standard DOE or not.

Mr. BIERBAUM. For non-DOE employees.

Senator GLENN. DOE does not do the investigation itself. It is turned over to other people. It is not DOE's fault.

Mr. VOIGT. That is correct. It is a full field investigation.

Senator GLENN. Do the people have to have full field investigation now or is this Q clearance on top of their full field investigation?

Mr. BIERBAUM. Two of the people that are involved have Health and Human Service top secret clearance but they will requires DOE Q clearance.

Senator GLENN. It requires an updating?

Mr. BIERBAUM. Our response—

Senator GLENN. Then you put a Q on top of that after the update?

Mr. BIERBAUM. We understand that it requires another 3 months from the time DOE receives the request for someone that already has top secret clearance.

Senator GLENN. Let's follow through on that and see if we can't speed that up a little. I don't think it is necessary to hold the whole thing up for as much as a year for lack of clearance authority. Could you followup on that and get back to us as to what the holdup is? Please let the committee know by letter, so we can include it in our hearing record.

Dr. FROINES. We appreciate that.

[The information follows:]

JULY 31, 1980.

HON. JOHN GLENN,

Chairman, Senate Subcommittee on Energy, Nuclear Proliferation and Federal Services, U.S. Senate, Washington, D.C.

DEAR SENATOR GLENN: As you requested at the July 21 hearing on possible occupational health problems at the Goodyear Atomic Corporation plant in Piketon, Ohio, I am providing you with a report on the status of processing "Q" clearances for our employees by the Department of Energy (DOE). DOE has required that our employees receive "Q" clearance before our industrial hygiene investigation at the plant can begin.

To receive "Q" clearance, NIOSH must first submit names of employees requiring clearance to this Department's security office. The Department of Health and Human Service (HHS) then submits the names to DOE. Finally, the Department of Energy requests the Office of Personnel Management (OPM) to conduct the actual field investigation.

NIOSH first began to submit names for clearance on February 20, 1980, after we decided it would be possible to conduct a study at the plant. Since then the names of eight employees have been cleared by this Department and were submitted to the Department of Energy between April and July 1980. To our knowledge OPM has begun field investigations on one of these employees. NIOSH submitted the names of an additional employee on July 7 and that name has not yet cleared this Department.

I am enclosing a list of the employees whose names we have submitted to DOE, as well as the name of the employee who has not yet been cleared by this Department. It normally takes from six months to a year to receive "Q" clearance. We would appreciate any assistance you can provide to expedite the process so we can begin our study.

Sincerely yours,

ANTHONY ROBBINS, M.D.,
(For Director).

Enclosure.

NIOSH employees in process for DOE Q clearance

Name, division:	<i>Date from HHS to DOE</i>
Phillip J. Bierbaum—DSHEFS	April 3, 1980
Thomas F. Bloom—DSHEFS	
David P. Brown—DSHEFS	July 8, 1980
Clinton Cox—DSHEFS	April 2, 1980
William E. Halperin—DSHEFS	July 10, 1980
Mitchell Singal—DSHEFS	June 11, 1980
Paul M. Strudler—OPPE	April 10, 1980
Dawn G. Tharr—DSHEFS	April 28, 1980
Ralph D. Zumwalde—DSHEFS	April 2, 1980

Mr. VOIGT. Mr. Chairman, I might just add, it takes us within the DOE the same amount of time it is taking for NIOSH to get a Q clearance for a DOE employee. We have the same problem in-house as well as out-of-house.

Senator GLENN. These cycles as to how many people are being investigated go up and down. It depends on whether we have a whole new batch of Federal judges who have to be investigated as to the size of the background investigation workload.

I hope we can speed this up some. The reason you are making your investigation is the danger to people working there. To hold up an investigation like this for a year because we can't get somebody a Q clearance to get in there is preposterous. Maybe we can get some priority so the investigations go through more rapidly.

Dr. FROINES. We think the epidemiologic study which will determine the risk of lung cancer is an important study, especially when we are talking about alpha radiation. In part, some of the monitoring, the dosimetry that goes in in a plant does not look at the levels of alpha radiation that may occur. One has to do that through in-vivo, or urinalysis. If there is a spill or immediate release that a person may be exposed to, the half life is brief, the excretion is rapid and one may not see it if the in-vivo is done over a period of time.

We think this particular lung cancer study, the epidemiological study is extremely important.

Senator GLENN. Are other people with Q clearances now working on other investigations in NIOSH?

Dr. FROINES. Yes, we do have one. This is our fourth radiation study and this is the first time we have been required to seek Q clearance.

Senator GLENN. How about the NIOSH/Navy agreement for the study of the Portsmouth Naval Shipyard?

Mr. BIERBAUM. They said we only needed top secret.

Senator GLENN. Could a similar agreement be made between NIOSH and DOE regarding these other facilities, similar to Portsmouth?

Dr. FROINES. I assume so.

Senator GLENN. We are talking about two Portsmouths. Can we make a similar arrangement between the Piketon facility and the Portsmouth, N.H., facility?

Dr. FROINES. I presume so.

Mr. VOIGT. I am not knowledgeable of what transpired in Portsmouth, N.H. As it relates to the Piketon facility, the requirement for Q clearance is the fact it would be dealing with material which is classified restricted within the framework of the Atomic Energy Act and that is the problem.

Senator GLENN. I gather from what you said earlier that Goodyear has been cooperative as far as giving hygiene health records of employees at Piketon, is that correct?

Dr. FROINES. Yes.

Dr. PURSWELL. Mr. Chairman, if I may comment, OSHA does have inspectors with Q clearances. That would not be an obstacle to us if we are called upon to cooperate with DOE in making inspections.

Senator GLENN. Thank you.

Have you gone into DOE's own health and mortality epidemiological study of its workers at the Oak Ridge plant?

Mr. BIERBAUM. Which specific one?

Senator GLENN. As I understand it, you have your own health and mortality study of your workers at Oak Ridge, right? Have you gone into that? I am wondering if you would handle your investigation or your analysis of that in any different way?

Mr. BIERBAUM. We have seen their protocol and so forth, but that is the extent of our involvement. We have reviewed their protocol and provided them with our comments. That was before they decided to include the Piketon facility in their study. We could provide that.

Senator GLENN. Have you gone over their methods?

Mr. BIERBAUM. Yes.

Senator GLENN. Do you agree with them or would you handle it in a different way?

Mr. BIERBAUM. I can't recall right now what our specific comments are, but we will provide them for the record.

[The information follows:]



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CENTER FOR DISEASE CONTROL

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
ROBERT A. TAFT LABORATORIES
4575 COLUMBIA PARKWAY, CINCINNATI, OHIO 45228

October 12, 1979

Mr. R. J. Hart, Manager
Oak Ridge Operations
Department of Energy
P.O. Box E
Oak Ridge, Tennessee 37830

Dear Mr. Hart:

Thank you very much for having sent to us for review the materials describing the Department of Energy (DOE) studies of occupational mortality in radiation workers.

Our staff have now completed their review of the documents received, and I enclose a copy of that review.

Two points which pertain particularly to the Piketon plant emerge from the review (p. 3). They are:

1. that no workers at the Piketon plant are at present included in any of the DOE studies; and
2. that the results from studies conducted at other plants cannot necessarily be extrapolated to Piketon, because there have existed process differences between Piketon and all other DOE facilities.

Our reviewers found, therefore, that "any allegations of adverse health effects which OCAW may claim cannot be refuted or substantiated by the current DOE activities."

In view of those points, we have concluded that an occupational mortality and industrial hygiene study of the Piketon plant is necessary. Only through such a study will it be possible to evaluate objectively the concerns raised by Mr. Mazzocchi of the Oil, Chemical, and Atomic Workers International Union in his letter to NIOSH of July 21, 1979.

In order to proceed with such a study without further delay, we have scheduled an initial visit of two members of our staff, Mr. David Brown, an epidemiologist, and Mr. Michael Crandall, an industrial hygienist to the Goodyear Atomic plant in Piketon. The purpose of this initial visit will be to assess the nature of the chemical and physical hazards at the plant and the condition of personnel and industrial hygiene records; the information so gathered will be used to determine whether or not further epidemiologic analysis is indeed warranted and whether company records are suitable to support such a study.

I have notified the plant manager of Goodyear Atomic of this decision.

Again, we thank you for your cooperation.

Sincerely yours,

Philip J. Landrigan, M.D.
Acting Director
Division of Surveillance, Hazard
Evaluations and Field Studies

Comments on the DOE Health and Mortality Studies

On June 21, 1979, Anthony Mazzochi, Vice President of the Oil, Chemical and Atomic Workers International Union (OCAW) formally requested that NIOSH conduct an epidemiologic study at the Goodyear Atomic Corporation Nuclear Gaseous Diffusion plant (owned by DOE) located in Portsmouth, Ohio. In response to the union concerns and to NIOSH's interest in the situation, the DOE requested that NIOSH first review the current DOE sponsored health studies before making a decision to pursue an epidemiologic study of the Goodyear plant. This material has been reviewed and some general comments follow:

The basic study design of the study of the Hanford workers conducted by Ethyl Gilbert and Sidney Marks is sound and is a recognized epidemiologic methodology used in many other studies of occupational groups. Following are a few potential shortcomings of the execution of the study.

- (1) The investigators only used the SSA to determine the vital status of study members. As mentioned in the paper, this could lead to an 8% underascertainment of the actual number of deaths in the study cohort.

Other sources of vital status information should have been explored.

- (2) It is not clear from the paper when person-years begin accumulating in the SMR study. Since one definition of the cohort requires each worker to have completed two years of employment, each cohort member is not at risk until he satisfies this requirement. Therefore, person-years should not begin until each worker has completed two years of employment. Otherwise, the person-years are inflated yielding a higher number of expected deaths.
- (3) In the SMR study, there was no analysis to examine latency. High risk groups within the study cohort can be missed if the entire cohort is analyzed as one group rather than stratified by latency periods. Since the risk of mortality due to occupationally induced cancer generally increases with an increase in latency when subcohorts with a short latency (low risk) are analyzed together with subcohorts with a long latency (high risk), the high risk group results will be diluted by the low risk group results. A cursory latency analysis was attempted in the trend

analysis, however only 2 year and 10 year latent periods were examined. These are relatively short time periods to expect an occupationally related cancer risk to become manifest.

It is apparent from this and other studies that the DOE, in conjunction with the Oak Ridge Associated Universities (ORAU), is currently engaged in a large effort to evaluate the health effects among employees working at DOE and their contractor facilities where radioactive material is handled. However, at least at the present time, these studies do not include any of the workers at the Goodyear Atomic Corporation. Therefore, any allegations of adverse health effects which OCAW may claim, cannot be refuted or substantiated by the current DOE activities. To speculate that the results of the mortality study being conducted at the Oak Ridge facility or the completed study of Hanford workers can be generalized to the workers of the Goodyear Atomic Corporation may be erroneous. The Goodyear facility appears to be unique, in that it is the only DOE plant that concentrates U-235 to 97-100%. The other enrichment plants, including Oak Ridge, only concentrate U-235 up to 3-5%. In addition, the Goodyear facility has always used the gaseous diffusion process whereas the

other facilities have not. These differences could lead to differences in chemical exposures, radiation exposures and thus different health consequences to the worker. In light of these factors it seems prudent to initiate an epidemiologic investigation of the Goodyear facility beginning with an industrial hygiene characterization as soon as possible.

It has been our observation over the last several months that there is a great deal of mistrust between the OCAW and the DOE (as well as Goodyear management). In order to conduct a study that will be acceptable to all concerned parties, NIOSH is in a position to offer an unbiased third party perspective.



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CENTER FOR DISEASE CONTROL

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
ROBERT A. TAFT LABORATORIES
8678 COLUMBIA PARKWAY, CINCINNATI, OHIO 45228

October 12, 1979

Mr. Kate Hurt
General Manager
Goodyear Atomic Corporation
Nuclear Gaseous Diffusion Plant
Piketon, Ohio 45661

Dear Mr. Hurt

I am writing to follow-up on our previous correspondence concerning the request made to NIOSH by the Oil, Chemical and Atomic Workers International Union (OCAW) that NIOSH conduct an epidemiologic study of the mortality of workers who have been employed at the Goodyear Atomic plant in Piketon, Ohio.

We were asked by the Department of Energy (DOE) to review materials pertaining to DOE-supported studies of the mortality of radiation workers. We have completed that review and have found that the data from the DOE studies are not directly pertinent to the experience in Piketon and that "any allegations of adverse health effects which OCAW may claim cannot be refuted or substantiated by the current DOE activities."

In view of those points, we have concluded that an occupational mortality and industrial hygiene study of the Piketon plant is necessary. Only through such a study will it be possible to evaluate objectively the concerns raised by OCAW relative to Piketon.

In order to proceed with such a study without further delay, we have scheduled an initial visit of two members of our staff, Mr. David Brown, an epidemiologist and Mr. Michael Crandall, an industrial hygienist to your facility. The purpose of this initial visit will be to assess the nature of the chemical and physical hazards at the plant and the condition of personnel and industrial hygiene records; the information so gathered will be used to determine whether or not further epidemiologic analysis is indeed warranted and whether company records are suitable to support such a study.

Mr. Brown and Mr. Crandall will report to your office at 9:00 A.M. on Monday, October 22.

Sincerely yours,

Philip J. Landrigan, M.D.
Acting Director
Division of Surveillance, Hazard
Evaluations and Field Studies



Department of Energy
Oak Ridge Operations
P.O. Box E
Oak Ridge, Tennessee 37830

73 OCT 26 P 1: 47

October 25, 1979

Dr. Philip J. Landrigan
Acting Director
Division of Surveillance, Hazard
Evaluations and Field Studies
National Institute for Occupational
Safety and Health
4676 Columbia Parkway
Cincinnati, Ohio 45226

Dear Dr. Landrigan:

Please accept this letter in confirmation of our conversations of last week and as my understanding of the status of the matter of NIOSH visiting DOE's Portsmouth Gaseous Diffusion Plant at Piketon, Ohio.

Following our October 15, 1979, receipt of your letter of October 12, 1979, advising us that NIOSH had scheduled a visit of two staff members to the Piketon facility, I ascertained from Mr. Hurt, General Manager for Goodyear Atomic Corporation, our management contractor at the facility, that the visit was scheduled for October 22. On October 16, 1979, I called you to discuss the matter of security clearances of NIOSH personnel intending to visit the plant and a possible alternative date for the visit. Denny Dobbin of NIOSH Headquarters, at your request, returned the call and discussed the security considerations regarding access to the plant. Later that same day, Mr. Dobbin called to say that a "Q cleared" NIOSH representative (Mr. Kramkowski from Chicago) would accompany the two uncleared NIOSH representatives from your office and that our suggested alternate date of October 24 was agreeable.

On October 18, in finalizing arrangements for the October 24 visit, I called Mr. Dobbin to ascertain whether NIOSH intended to have a representative of the Oil, Chemical and Atomic Workers' Union present during the visit. Because of your past comments about NIOSH standard procedures requiring that the complainant be involved in all NIOSH meetings or visits, because DOE imposed security requirements at the Piketon facility require us to know in advance who intends to visit the plant in order to expedite and control access, because the plant has been in a strike situation for almost six months, and because no mention had been made by NIOSH about any union representative attending the October 24 visit, the question required a prompt answer. Upon learning that Mr. Dobbin was engaged in a two-day meeting, I contacted your office. Later that day, you informed me that the following people would be present at the Piketon facility on October 24 for the visit:

- D. W. Bloomfield, OCAW Local 3-689 President
- C. A. McNelly, OCAW Local 3-689 Vice-President
- G. Sexton
- S. Cooper
- J. Diamond
- S. Ray
- G. Wilkin
- J. Ramey
- Dr. Mark Nelson

My immediate reaction to this was two-fold: that many of the union representatives (if not all) were either a part of the OCAW negotiating team or had participated in the continuing labor negotiations between OCAW and Goodyear, and that the number of union representatives seemed extraordinary. You stated that you would discuss the matter with the union.

I called you on the morning of October 19 to inform you of Goodyear's position and DOE's position regarding the visit under these conditions. I informed you that, notwithstanding your efforts and ours to separate the NIOSH visit from the labor relations situation existing at the facility, the scheduled visit was already a disruptive influence on the negotiations between OCAW, Goodyear and the Federal Mediation Service representatives, including a meeting that was being arranged for either October 23 or 24. You proposed

that the NIOSH visit be delayed to November 1. Goodyear Tire and Rubber, parent company of Goodyear Atomic Corporation, and Goodyear Atomic were of the opinion that entry of union negotiating team representatives into the plant under the present circumstances would adversely impact the continuing labor negotiations. DOE-Headquarters labor relations officials agreed that entry of union negotiation team representatives into the plant and into meetings where NIOSH proposed to question members of the management negotiation team (the General Manager and the Personnel Director) would be inappropriate.

On October 19, therefore, I informed you that the Goodyear position was that it would not meet with NIOSH during the strike under the conditions imposed by NIOSH. DOE supports that determination on the basis that it is inappropriate and deleterious during the pendency of the strike for NIOSH to conduct a visit of the Piketon facility in the manner that you have proposed. As I have previously pointed out, a visit during the strike would also give a distorted view of plant operations in that the usual work force and work conditions are not present.

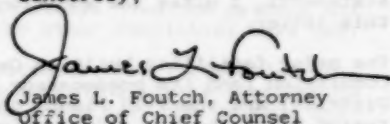
In our discussion on October 19, I offered to explore the possibility of furnishing NIOSH access to the personnel and industrial hygiene records at a location outside the facility, foregoing temporarily the industrial hygiene plant "walk through," but you stated that this would not be sufficient "politically." I then concluded our conversation with the statement that our position is that, after the strike is over, we will be glad to cooperate with you and your staff in arranging a visit and any further epidemiologic analysis but, until the strike is over, we feel your activities (if conducted in the manner you proposed) can only do harm in the context of continuing labor negotiations regarding the facility. Inasmuch as you stated that any study you may do is likely to require a couple of years, we do not know of a valid reason for NIOSH's reluctance to delay its activities for what we are hopeful will be a short time.

On a related matter, it may be helpful to address two apparent misconceptions by members of your staff revealed in the comments attached to your letter to Mr. Hart of October 12, 1979. Your staff observed that the Piketon

facility "appears to be unique, in that it is the only DOE plant that concentrates U-235 to 97-100%." While it is true today that only the Portsmouth Gaseous Diffusion Plant operates at 97% enrichment, from the early 1950's through 1964 the Oak Ridge Gaseous Diffusion Plant also operated at top of the cascade levels (93% enrichment at the time). Thus DOE's epidemiologic analysis of the Oak Ridge worker population includes a long period of production at high enrichment levels. None of the three facilities has ever operated above 97% enrichment. Your staff also observed that "the Goodyear facility has always used the gaseous diffusion process whereas the other facilities have not." Whatever the source of your staff's information is in regard to this matter, it is in error. All three enriching plants (Portsmouth, Oak Ridge and Paducah) have utilized only the gaseous diffusion process. Research and demonstration in other technologies continues, but -- from establishment of the first United States enriching facility (the Oak Ridge Gaseous Diffusion Plant) -- the only technology used to date in the enriching plants is the gaseous diffusion process. I do not know whether these facts would cause your staff to change its conclusion, but it is obvious that part of the premise for the conclusion was faulty.

In summary, while we are of the opinion that NIOSH lacks statutory authority to embark upon a study at the Piketon facility as a matter of right, in a spirit of cooperativeness and on the basis of comity between agencies, we are agreeable to NIOSH visiting this DOE facility and conducting an epidemiologic study after the present strike. We are confident that an objective study of the Portsmouth Gaseous Diffusion Plant will confirm the excellence of the health and safety programs at the facility and the absence of adverse health effects.

Sincerely,


James L. Foutch, Attorney
Office of Chief Counsel

CC-10:JLF

cc: Denny Dobbin, NIOSH, Rockville, MD



Department of Energy
Oak Ridge Operations
P.O. Box E
Oak Ridge, Tennessee 37830

November 2, 1979

Dr. Philip J. Landrigan
Acting Director
Division of Surveillance, Hazard
Evaluations and Field Studies
National Institute for Occupational
Safety and Health
4676 Columbia Parkway
Cincinnati, Ohio 45226

Dear Dr. Landrigan:

Please accept this letter as supplementing my letter to you of October 25, 1979, on the subject of our past discussions regarding the Portsmouth Gaseous Diffusion Plant.

Upon reflection, it appears that one of the statements I made in my October 5, 1979, letter might be misleading to one unfamiliar with the history of the Oak Ridge facilities. To avoid any misunderstanding of the meaning of my statements, I offer the additional information contained in this letter.

The major facilities built in Oak Ridge by the Atomic Energy Commission (and its predecessor, the Manhattan Engineer District) are the Y-12 Plant, the Oak Ridge Gaseous Diffusion Plant and Oak Ridge National Laboratory. Work on all three buildings began in 1943, under wartime conditions and great secrecy. These three plant complexes, while within Oak Ridge, are miles apart. Y-12 is more than 4 miles from the Gaseous Diffusion Plant, which is more than 2 miles from Oak Ridge National Laboratory, which is about 3 miles from Y-12, all in roughly an upside down triangle with the Y-12 to Gaseous Diffusion Plant distance forming the base.

The Y-12 Plant was built on a "crash basis" to enrich uranium for war purposes utilizing the electromagnetic process. Ground was broken on February 1, 1943, and production began on January 27, 1944. Because of war needs, a thermal diffusion enrichment facility, which fed its slightly enriched production into Y-12, was built near the Gaseous Diffusion Plant power plant in late 1944 and operated until September 1945. After the war, the electromagnetic method of U-235 production was abandoned. The Y-12 Plant has continued to operate with its primary mission now being the production of components for nuclear and thermonuclear weapons and fabrication support to DOE's weapon design laboratories. The plant has not served as a uranium enrichment facility since late 1945 or early 1946.

The Oak Ridge Gaseous Diffusion Plant was the first gaseous diffusion plant to perform large-scale separation of U-235. Construction of the plant began in September 1943 and production began in February 1945. Planning for the Paducah Gaseous Diffusion Plant began in 1950, and construction of the plant was completed in 1954. The last gaseous diffusion plant to be constructed (1952-1956) was the Portsmouth Gaseous Diffusion Plant. These plants are among the largest industrial facilities in the world. The relative sizes of the process buildings at the three gaseous diffusion plants are 105 acres at Oak Ridge, 74 acres at Paducah and 93 acres at Portsmouth.

In your staff's comments, transmitted by your letter of October 12, 1979, the following statement appears:

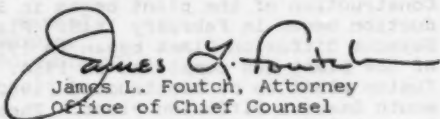
"The Goodyear facility appears to be unique, in that it is the only DOE plant that concentrates U-235 to 97-100%. The other enrichment plants, including Oak Ridge, only concentrate U-235 up to 3-5%. In addition, the Goodyear facility has always used the gaseous diffusion process whereas the other facilities have not."

It was with regard to this statement that I responded on October 25, 1979: "All three enriching plants (Portsmouth, Oak Ridge and Paducah) have utilized only the gaseous diffusion process." Your staff's comments, to me, clearly related to only the Oak Ridge Gaseous Diffusion Plant, the Portsmouth Gaseous Diffusion Plant and the Paducah Gaseous Diffusion Plant. My comments, likewise, were addressed to

only these three plants. These three plants have utilized only the gaseous diffusion process. At the time I wrote my comments, I was aware of the wartime activities at Y-12 but did not consider a discussion of those activities pertinent, given the context of your staff's comments. Had I considered the Y-12 activities pertinent, I would have cited them as another example of Oak Ridge enrichment activities at levels above 3-5%.

While I doubt that my comments in this regard caused any confusion in your review of this matter, in order that I may avoid any thought that I have been less than candid with NIOSH regarding DOE operations, please accept this additional information as clearly placing my comments in their proper frame of reference.

Sincerely,


James L. Foutch, Attorney
Office of Chief Counsel

CC-10:JLF

cc: Denny Dobbin, NIOSH, Rockville, MD

Senator GLENN. Do you feel the DOE health records you have looked at are adequate, detailed, and easily accessible? Have they been available to you?

Dr. FROINES. They have been cooperative; they do seem adequate. There are some which would be useful which we intend to talk with DOE about. We do think we need to talk both with the contractor and with the union to determine specific instances where problems may have occurred in the past to facilitate our knowledge of the kind of dose people were actually receiving. The trouble with a study like this, you don't necessarily take into account a specific exposure of a particular employee because that may not show up on any dosimeter badge. That would necessitate another type of study. There is some subsequent information that we do need. For example, we need radiological occurrences information and further industrial hygiene information. So as I say, without going into a lot of detail, we do require further information. We will be talking with DOE about that.

Senator GLENN. Back to DOE.

What is your current assessment of your statutory authority on health and safety; is it adequate?

Mr. VOIGT. As described earlier, Mr. Chairman, the Atomic Energy Act does grant, and the carryover of that act to DOE, granted to DOE the statutory responsibility for health and safety as related to our own facilities. It is our view that we are adequately performing health and safety inspections, hence fulfilling our authority.

Senator GLENN. Are you short of people to do the job you should be doing?

Mr. VOIGT. Yes, sir.

Senator GLENN. Are you short of money or equipment?

Mr. VOIGT. No, sir. People seems to be the problem.

Senator GLENN. Is it that you can't get good people? Are we not paying enough to get the kind of people you need to run, say, all the required inspections frequently enough? Is it the lack of adequately trained people or lack of pay to get those people out of private industry and into Government services? What is the problem?

Mr. VOIGT. I think there are several problems, Mr. Chairman. A lot of our people at Oak Ridge were hired away from us by industry, by the nuclear industry, per se.

Senator GLENN. Higher pay?

Mr. VOIGT. Yes, for the most part.

Second, we got caught up in the framework of the Office of Personnel Management in job reclassification and, hence, had to go back and reassess the classification of these individuals in that particular job, and that was very, very time-consuming. Third, we got caught up in the hiring freeze. We are hopeful now we can get some alleviation from that and, hence, because of the safety considerations, acquire additional people.

So I am hopeful we are on the upswing now.

Senator GLENN. Do you see a need for organizational changes to make who reports to whom more workable or perhaps to make it function as an independent group within DOE?

Mr. VOIGT. I do not believe that is an important consideration for an individual coming in although we are considering new organizational changes at Oak Ridge in terms of improving the organizational

management of the health and safety activities. I have been having discussions with the manager of that office.

Senator GLENN. I consider this a very, very high priority. A worker who sees a wheel turning and accidentally backs into it, was sort of forewarned. He saw it, and while there should have been a guard over it, that's for sure, nonetheless, he has some control over his situation. When we talk about matters of radiation, and so on, that is not something he can taste, see, feel, look at. He has to be protected from it, quite apart from his own efforts. That is the reason I place great priority on this.

I hope we are doing whatever is necessary to reorganize or to hire additional people or get a new pay scale to get enough people to make adequate numbers of inspections and to keep every thing up to date.

One slip and a lot of people can be in a very bad way. Of the 11 major accidents described in the GAO report that have occurred in enrichment plants since 1970, seven have been at Portsmouth. In addition, nearly half of the total number of releases of radioactive materials have appeared at Portsmouth. What do you see as the reason for what appears to be the poorest record among these three enrichment plants?

Mr. JOHNSON. If one does look at the statistics, prior to 1975, there were more releases at the Portsmouth site than any of the facilities.

Senator GLENN. Prior to 1975?

Mr. JOHNSON. Yes, prior to 1975. One must recognize that the Portsmouth facility does more operations than the other plants; the number of what we call pigtail connects and disconnects. That is when you hook up cylinders and disconnect cylinders is probably 50 percent more than any other plant.

It is a bigger plant as far as production and work of that nature.

However, as a result—I mentioned this a little earlier—of the number of releases that were occurring, the Oak Ridge manager and his staff instigated a U.F. handling committee which had representation from all three sites. Under that one committee there were 14 subcommittees which generated over 100 recommendations to try to improve the situation, try to promote commonality between the three sites. This has been effective apparently because since 1975, we have had only one report of an accident and that was the unfortunate one due to a lug on a straddle carrier. But as far as statistically, I can say with reasonable assurance that since 1975, I can see no real difference between the sites.

Senator GLENN. GAO has been somewhat critical of DOE in that DOE relies on extensive contractor participation in scrutiny of complaints, which they feel affects your objectivity.

What is your response to this?

Mr. JOHNSON. I can give you my personal response or that of my staff. We try to maintain objectivity at all times. In all cases where we receive complaints, we give due consideration first of all to whether it is a legitimate complaint. We have phone calls continually. Some of these complaints, as we alluded to earlier, are trivial. Others have substance. In those cases where substance is indicated, we do on-site investigations, and we consider it prudent where a problem is existing on a shift, for instance, and it may be over by the end of a shift, such as a particular maintenance activity that is going to last for 3 or 4

hours and an employee is going to call, we refer these matters to the contractor. It is no different than the Department of Labor. They also would report referral matters to these companies for resolution.

It is the only way you can do it effectively and efficiently.

Senator GLENN. Another criticism that has been leveled at DOE also has been the fact of seldom following up on recommendations made from valid complaints. How do you respond to that?

Do you think that is a valid charge?

Mr. JOHNSON. No, I do not. There are many cases where we do not have an auditable trail on all complaints. With serious problems, we do follow up. We require the contractor to follow up in writing and provide engineering solutions to extensive problems. We do follow up.

I do note in the GAO report that they site one instance having to do with radiation contamination and say we did not do anything about it for 5 years. That is entirely not true. In the first place, we reviewed the mechanism by which the standard was generated. This was approved formally by the Oak Ridge Operations Office. We have had many meetings with the contractor. We have actually instructed them to provide additional staff to do monitoring of the decontamination facilities. So we do follow up.

Senator GLENN. I am the last one in Washington who is going to suggest we add more paperwork to anything. It seems to me you might be advised to increase your followup of these complaints.

We received gripes some time ago, too. People complained about health dangers, and nobody ever got back to them at all. It seems to me, even if you get a phone call from somebody on one shift, either you should dictate something very rapidly or put a recording device on the phone. It could say something like, "There is a beeper on this phone. We want to record your call, so we have a record. Give me your name and address, so we can get back to you."

While it may sound frivolous, it might allay some of the workers' fears that nothing is being done.

Mr. JOHNSON. You are entirely correct and we have already taken steps to do that.

Senator GLENN. What steps are being taken to make sure problems such as tagging, in which contaminated machinery was not adequately identified, do not recur? Is that the one you were talking about just a moment ago?

Mr. JOHNSON. Yes; DOE has a limit of contamination levels on equipment. These numbers relate to that level at which a respirator is required. This has been in effect for some years.

We have had several complaints relating thereto and the problem primarily is that employees do not clearly understand that this is a limit which requires respiratory protection. This limit was established by preplant study and has a safety factor of 10 or more. This means you can buff, grind, polish, work on, at that level for 40 hours a week and get less than 10 percent of the standard.

Anytime that level is exceeded, a respirator is required. Due to volume of equipment items that we handle in our shops, occasionally there are tags that are mislabeled, tags which are torn off or dropped off. These things happen. And it is a problem of continual vigilance. We have had several meetings with our contractors on that.

As I stated earlier, we have assigned individuals at the decontamination facilities, shops, to be sure those tags are placed on there, and that they are correct. But in spite of our best efforts, I must say that there are continual violations of that, primarily due to the fact we have large volumes of material and things happen in shops.

Senator GLENN. Mr. Voigt, I would appreciate a letter from you, if I could, detailing for me and for our record what you are doing in the area of hiring the number of people you need. That seems to be a rather critical item. I would like a rundown on your past hiring record, how far understaffed you are now, and what your recommendations as to what needs to be done to alleviate the situation. I gather you are not at your personnel levels now.

Mr. VOIGT. That is correct, we are not.

Senator GLENN. What percent of the necessary number of inspectors do you have? I am trying to get an idea of the magnitude of your problem.

Mr. JOHNSON. Historically, the Safety Division was formed in about 1967. Throughout the years, about 1977 we had something like 23 professionals. At the current time we have 17. We have had some—

Senator GLENN. How many are called for in your table of organization, do you know?

Mr. JOHNSON. It should be 23 or more.

I might refer to my boss back here to respond to that question.

Mr. VOIGT. This is Mr. Dimico, from Oak Ridge.

Senator GLENN. Thank you.

Mr. DIMICO. Mr. Chairman, right now we are seven persons understaffed to do the entire safety job—

Senator GLENN. You are close to a third under strength.

Mr. DIMICO. Yes, the total number is 22 on board. We have been authorized by the manager to recruit four. Friday we got one acceptance, I might add. And the manager has given me authority once we hire these four, to go after the other three.

Senator GLENN. I would like to have a report on the problems in recruiting personnel, so we can try to address some of them here if need be.

Mr. VOIGT. We will be most happy to supply that, Mr. Chairman.
[The material follows:]

Staffing Analysis

for Safety and Environmental Control Division Oak Ridge Operations Office

Staffing, 1967 - 1977

In September 1967, the Safety Division was established in the Oak Ridge Operations Office (OR) thus bringing together into one organization all safety staff functions which were previously vested in a number of OR units. The newly formed Division consisted of three Branches with a total of 17 professional staff members. Between 1970 and 1977, increased demands were placed on the Division. For example, in 1970, a fourth Branch (presently called the Environmental Protection Branch) was added because of increased emphasis on environmental matters. Also, during this seven-year period, in addition to the enactment of the NEPA, OSHA, and RCRA, more than 15 new Manual Chapter requirements were promulgated in the safety area. By 1977, the professional staff had gradually increased to 23, or an increase of about 1/3 over the ten-year period to handle the increased workload generated by the newly enacted laws and the new and/or expanded programs assigned to OR such as the gas centrifuge plant in Portsmouth, Ohio.

Staffing, 1978 - 1980

As noted in Attachment I, the staffing levels for the Safety and Environmental Control Division became unstable starting in 1978. In the past two years, the Division has lost a total of 10 employees (see Attachment II), and has replaced only 4 employees (see Attachment III). This net loss of 6 employees is a result of the following:

1. With the creation of DOE, all employees became subject to the regulation and job classification standards as promulgated by the Civil Service Commission and subsequent modifications pursuant to the Civil Service Reform Act. Subsequently, all position descriptions within OR were rewritten and classified pursuant to the new classification standards. During the course of these activities, a number of employees left because they feared that their promotional potential at OR would be limited and that some positions would be downgraded.
2. There is a continuing demand in the area of highly qualified and experienced professional personnel in the field of health and safety. We have lost several personnel to industry and other governmental organizations, and at times, especially in the nuclear safety area, have difficulty in recruiting. The salary and/or perceived career potential within DOE may have had some influence in this regard.

3. For a period of time (beginning with ERDA), OR had difficulty in obtaining sufficient positions to cover all the demands that were placed on the office. Insufficient number of positions available to accomplish OR's expanding mission has affected a number of operating units and divisions within OR including the Safety and Environmental Control Division. This continues to be a problem as OR takes on an additional role as lead office in major solvent refined coal projects.
4. Employment freezes have been instituted on an agency wide basis at various times which have also added to our recruitment difficulties. For example, under ERDA, employment was frozen 120 days prior to formation of DOE which then was extended an additional 4 months after the formation of DOE. On October 25, 1978, another freeze was established on a 2 for 1 basis which lasted through March 1979. Finally, on March 1, 1980, a 2 for 1 freeze was again established, and is still in effect, except as it applies to safety engineers and health physicists.

Starting in late 1978, it became apparent that, with the acute loss of experienced personnel, the Division would be unable to meet all of its commitments. Accordingly, a number of personnel adjustments were made within the Division, and the work functions were prioritized until additional personnel became available. The prioritized work functions established in late 1978 and continue to this date are listed below:

First Priority

1. Response to emergencies and radiological assistance situations, subsequent coordination of accident/incident reporting, investigations, and follow up. Response to contractor and Federal employee complaints.
2. Actions involving specific environmental, safety, or health (ESH) problems in support of contract administrators or Office of Public Information.
3. Appraisals of contractors' ESH activities.
4. Review of ESH adequacy of Conceptual Design Reports, Safety Analysis Reports, and ESH related budget documents.
5. Conduct of preoperational safety reviews.

6. Actions as ORO point of contact with Federal, state, and local regulatory agencies regarding permits, Environmental Impact Statements, etc.

7. Evaluations required pursuant to Cost Plus Award Fee contracts.

Second Priority

1. Coordination of fire prevention recommendations from outside consultants.

2. Provision of routine reporting to Headquarters.

3. Training of S&EC staff.

4. OSHA inspections.

Third Priority

1. Staff review of Title I and II engineering documents. S&EC will respond to questions on specific items/areas from Engineering Division and contract administrators.

2. Review of non-ESH related portions of budgets. S&EC will respond to questions on specific items/areas.

3. Formerly Utilized Sites Remedial Action Program (FUS/RAP) review. S&EC will respond to questions on specific items/areas from Technical Services Division and Research Division.

At the present time, it takes considerably more man-hours by members of the Division and other units in OR to carry out all of the required functions involved in recruitment. In addition, once an individual has agreed to accept an offer of employment, it takes between four and six months to obtain a Q-clearance. Finally, the individual will not become fully productive for a period of time, depending upon his background, familiarity with the contractors' operations, etc. It should be noted that the 10 employees lost in the past two years had a total of 63 years' experience in OR's safety program. Talented safety people, particularly those schooled in nuclear safety, are in very high demand.

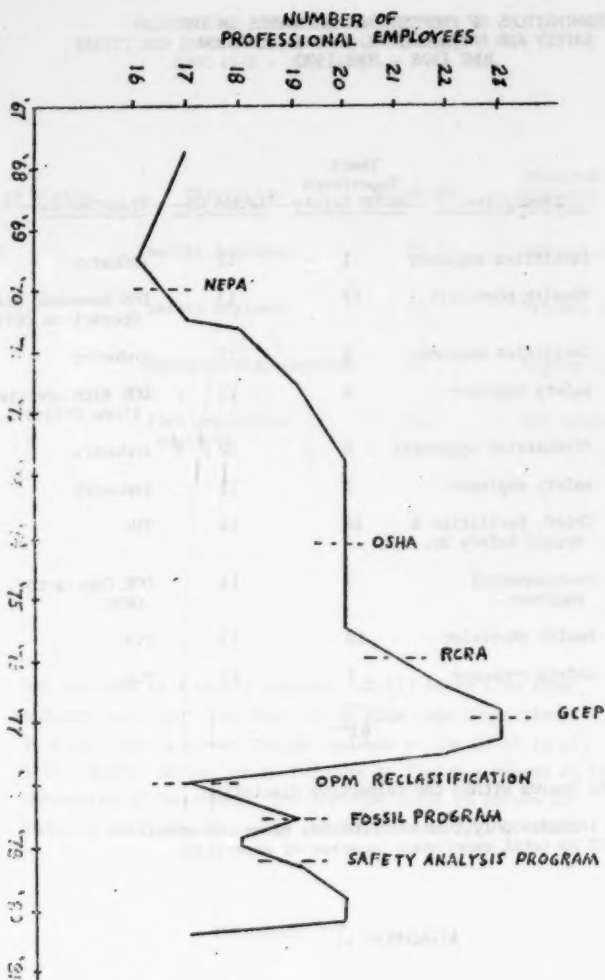
Current Status of Staffing

The Safety and Environmental Control Division presently has 17 professional employees and a total strength of 22 full-time employees. The present OR organization chart (Attachment IV) and Safety and Environmental Control Division's organization chart (Attachment V) are enclosed.

In order to accomplish its present mission, the Division needs a minimum of 7 additional positions. At the present time, 4 positions have been authorized. Three offers have been tendered and one of the offers has been accepted. We will initiate recruitment for the 3 remaining positions in the immediate future.

These actions, which demonstrate the high priority assigned to the recruitment of safety personnel, should enable the Safety and Environmental Control Division to meet the present commitments totally by early 1981, and continue an effective safety program in the interim.

FULL-TIME PROFESSIONAL EMPLOYEES IN THE SEC DIVISION (—)



TERMINATIONS OF PROFESSIONAL EMPLOYEES IN THE
SAFETY AND ENVIRONMENTAL CONTROL DIVISION
JUNE 1978 - JUNE 1980

<u>Date Terminated</u>	<u>Discipline</u>	<u>Years Experience In OR Safety</u>	<u>Grade GS-</u>	<u>Transfer To</u>
6/78	facilities engineer	1	12	industry
7/78	*health physicist	17	13	DOE Savannah River Operations Office
8/78	facilities engineer	2	11	industry
9/78	safety engineer	4	12	DOE Richland Operations Office
9/78	*industrial hygienist	6	12	industry
11/78	safety engineer	3	12	industry
1/80	Chief, Facilities & System Safety Br.	14	14	TVA
3/80	environmental engineer	5	13	DOE Contractor, ORNL
4/80	health physicist	10	13	TVA
4/80	safety engineer	1	12	TVA

63**

*Certified by boards within the respective discipline.

**Experience includes only that with DOE-OR, hence conservative with respect to total experience in areas of expertise.

ATTACHMENT II

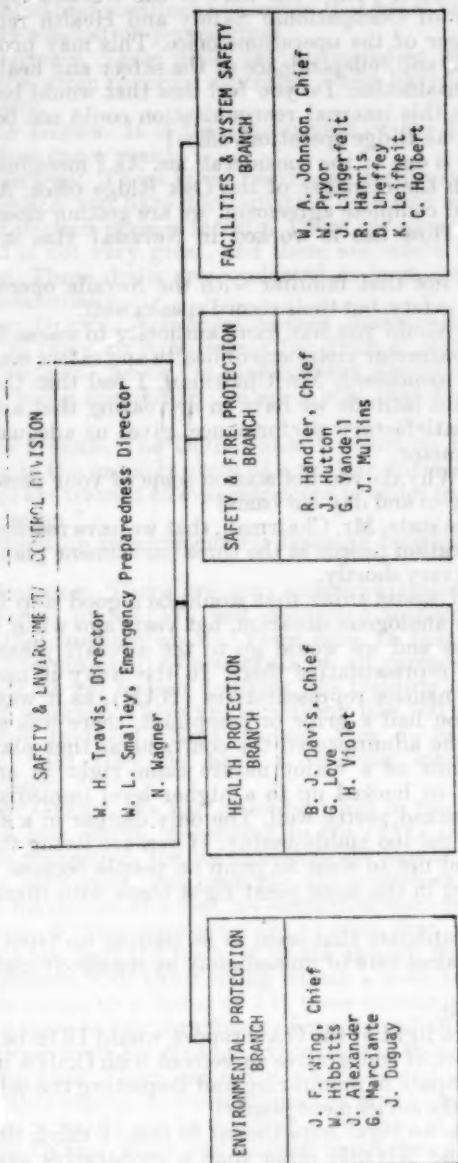
PROFESSIONAL NEW HIRES IN THE
SAFETY AND ENVIRONMENTAL CONTROL DIVISION
JUNE 1978 - JUNE 1980

<u>Date of hiring</u>	<u>Discipline</u>	<u>Grade GS-</u>	<u>Previous Employer</u>
11/78	safety engineer	12	DOE Contractor
2/79	safety engineer	12	Private Utility
8/79	environmental engineer	12	Region II, EPA
3/80	fire protection engineer	12	DOE Contractor

NOTE: Not included is a safety engineer (GS-11) hired 1/80 from industry on a part time basis to do OSHA type inspections. This new hire, a former DOE-OR employee at the GS-12 level, left a higher paying job in industry to finish a degree at the University of Tennessee. The employee plans to return to industry after the degree is obtained in the fall of 1980.

ATTACHMENT III





ATTACHMENT V

Senator GLENN. GAO points out that at the Nevada Operations Office, the Director of Occupational Safety and Health reports directly to the manager of the operations office. This may provide for increased separation and independence of the safety and health function from that of production. Do you feel that that would be a help? Is there any reason this internal reorganization could not be accomplished within the Oak Ridge operations office?

Mr. VOIGT. That is one of the considerations. As I mentioned, I am discussing this with the manager of the Oak Ridge office. Although we have not reached complete agreement, we are getting close to it.

Senator GLENN. How has it worked in Nevada? Has it worked well?

Mr. VOIGT. I am not that familiar with the Nevada operations in terms of health and safety, but their record speaks well.

Senator GLENN. Would you like more authority to assess fines and civil penalties for contractor violations of health and safety standards?

Mr. VOIGT. As I mentioned, Mr. Chairman, I feel that the award fee, and the attendant latitude we have in decreasing that award fee as the result of unsatisfactory performance, gives us adequate flexibility upon the contractor.

Senator GLENN. Why do you not station some of your personnel at these plants on a day-in and day-out basis?

Mr. VOIGT. Let me state, Mr. Chairman, that we have reached agreement that we will station people at the three enrichment plants. That will be forthcoming very shortly.

Senator GLENN. I would think that would be a good step forward. This is not quite an analogous situation, but years ago when I was in the aircraft business and we would go to the aircraft plants, there was a Government representative there. In the Navy it used to be the Bureau of Aeronautics representatives (BAR), as it was known in those days. If you had a gripe or complaint, there was a person and a small staff who administered the contracts at that plant. Any gripes and complaints of a major nature came right in and were either taken care of or bucked up to a higher level immediately. It seems to me that worked pretty well. The only danger in a situation like that is you can get too buddy-buddy. If you are living there day in, day out, you tend not to want to jump on people because you are friends, having lived in the same plant right there with them. There is a hazard there.

Some of these complaints that seem to be coming up from time to time might well be taken care of immediately by somebody right there on the spot.

Mr. VOIGT. Yes, sir.

Senator GLENN. In light of the GAO report, would DOE be willing to enter into some sort of cooperative agreement with OSHA in which OSHA might participate in monitoring and inspecting the safety and health conditions at the enrichment plants?

Mr. VOIGT. We see no legal impediment to that. I think that with respect to OSHA and NIOSH other than a cooperative agreement between our respective groups is the question of statutory authority, as to whether they would have the capability to cite claims against our contractors. That is our big problem.

Senator GLENN. How often are nuclear criticality drills required or conducted and monitored to insure that plant personnel are trained for proper evacuation procedures?

Mr. JOHNSON. These drills are conducted at least annually, sometimes more, often covering all shifts. These have been done for many, many years.

Senator GLENN. Is it the requirement of the DOE standard, that you conduct one a year?

Mr. JOHNSON. There is no particular requirement, except to meet the obligation you have for radiation detection equipment available. It would depend upon a facility. There are some facilities where the potential is not very great, and there are others where the potential is higher. Those drills are conducted at least annually and in some cases semiannually.

Senator GLENN. You must have a considerable turnover of employees. Is there no requirement for drills at stated intervals?

Mr. JOHNSON. As far as management directives, I am not aware of these being specifically stated except that they be conducted as required.

Senator GLENN. The DOE Phase I report on Portsmouth said, in referring to the unlikely event of a nuclear criticality accident, "Plant personnel are trained to evacuate areas in order to maintain exposures to a minimum."

If there is no requirement for training people, I think that would be—

Mr. JOHNSON. There are very extensive training requirements at our diffusion plants. We just conducted inspections at these three sites at the direction of Mr. Voigt here. In that particular case, we covered the training requirements of all cascade operators, the development of job hazard analyses, the training of supervisors, foremen and workers. There are something like 130 specific job analyses that apply to these plants. Indeed, they do have a very effective program, and they do have a training school which goes on continuously.

Senator GLENN. We had other hearings in the past here, where we discussed rem limits. According to the GAO report, the record on radiation protection, for not exceeding the maximum allowable limits, has been very good. For example, for in-vivo exposure, where there can be a maximum of 5 rem, no employees were found to exceed more than 2 rem. Fifteen employees out of more than 11,000 received doses exceeding one half the limit. It would appear, then, that there would be no problem with DOE living within a reduction of the maximum allowable limits by a factor of 2 in these enrichment plants.

Would there be any significant disruption of DOE activities if the 5 rem per year limit for planned exposure was reduced by a factor of 2?

Mr. JOHNSON. There was recently a study and a report prepared by DOE in this regard. It would appear as far as the diffusion plants are concerned it would not be much of a problem at all.

Senator GLENN. Have you thought about changing that level downward, then?

Mr. JOHNSON. Currently, we used the Alara concept. We try to get it "as low as reasonably achievable." We do this by design and a variety

of parameters that we employ. It depends upon how much money you want to spend.

Senator GLENN. Could DOE provide us dollar figures for the record which include a breakdown of how its cost-plus award fee contract has operated with Goodyear over the last 5 years?

Mr. VOIGT. Be glad to.

Senator GLENN. Are you aware of any instances in which DOE has granted its contractors variances from mandatory health and safety standards on the grounds that funding was not available to correct the hazard?

Mr. VOIGT. Not to my knowledge. And more specifically, not in uranium enrichment.

Senator GLENN. Has DOE been receiving the regular monthly reports required from Goodyear on the status of the recommendations contained in the phase I and phase II investigations?

Mr. VOIGT. Yes, sir.

Senator GLENN. Has DOE been notified of any delays or difficulties encountered by Goodyear in complying with the recommendations?

Mr. VOIGT. Not to my knowledge.

Senator GLENN. Are you monitoring now or will you be monitoring the implementation of these recommendations firsthand to insure that Goodyear is moving on these suggestions?

Mr. VOIGT. Yes, sir.

Senator GLENN. You are doing that now?

Mr. VOIGT. Yes, sir.

[The prepared statement of Mr. Voigt, and report on award fee procedure follows:]

Statement of
 William R. Voigt, Jr.
 Director
 Office of Uranium Resources and Enrichment
 Resource Applications
 U. S. Department of Energy
 Before the Committee on Governmental Affairs
 Subcommittee on Energy Nuclear Proliferation and Federal Services
 U. S. Senate
 Uranium Enrichment Health and Safety Hearing
 July 21, 1980

I. Introduction

Mr. Chairman, I am pleased to appear before this Committee this morning to testify for the Department of Energy on the health and safety program at the Department's uranium enrichment plants located at Oak Ridge, Tennessee; Paducah, Kentucky; and near Portsmouth, Ohio. As the Committee members know, the DOE enrichment plants are operated for the Government by operating contractors (the Oak Ridge and Paducah plants are operated by the Union Carbide Corporation and the Portsmouth plant by the Goodyear Atomic Corporation).

The Department of Energy and its operating contractors are committed to the health and safety of employees at the enrichment plants. The health and safety programs at these plants have been more than adequate to ensure the safety and health of the contractor employees. The safety performance records of the enrichment facilities clearly show that the DOE/contractor programs are far superior to comparable industry programs.

Based on data prepared by the National Safety Council, the DOE's enrichment "facilities accidents" and "lost workday case safety" statistics have always been far better than the chemical industry (the industry with closest similarity to enrichment operations) or industry generally. In 1978, for example, the enrichment plant's work-related injury statistics are lower than the chemical industry by a factor of 4, and all industries generally by a factor of 8. Safety performance data for all three enrichment facilities for 1978 and 1979 are attached for the record.

Besides the outstanding record achieved at the enrichment facilities in industrial safety, the Subcommittee should be aware that employee radiation control records at these facilities are equally impressive. At the three gaseous diffusion enrichment plants, there has never been any exposure to workers in excess of DOE or NRC standards. In our opinion, the outstanding results of the safety and radiation protection programs at the enrichment plants reflect the dedication and efforts of DOE and its contractors to ensure safe and healthful working conditions for the employees.

In my statement today I will cover three areas, namely,

- The structure of DOE's health and safety program

- DOE actions/steps to investigate and correct identified health and safety problems, and
- DOE's comments on the recent GAO report on health and safety programs at the enrichment plants.

II. The Structure of DOE's Health and Safety Program

The DOE health and safety program is structured on a systems approach and is comprised of a variety of functional elements which are integrated into a comprehensive program. While surveillance and enforcement are important parts of this system, they represent the end functions of the program. The outstanding safety record achieved at the enrichment plants for some 30 years of operations reflects the results of the basic philosophy of the safety program, which is to design health and safety into plant operating procedures, equipment, and facilities, thereby eliminating potential hazards from the normal working environment. DOE is committed to establishing and enforcing safety and health standards that are at least as stringent as those established by OSHA. In practice DOE adopts OSHA standards as a part of the DOE standards and criteria.

The three enriching plants are extremely large facilities with a replacement cost of about \$15 billion. Of the total 11,300 employees at these plants, about 300 employees are directly involved in the performance of safety functions. At the three plants we are currently spending about \$14 million per year in operating dollars for health and safety activities. We expect the health and safety portion of our budget to increase to about \$17 million by 1982.

In 1980, we are also spending over \$6 million on health and safety General Plant Projects and have initiated approximately \$40 million in health and safety related capital projects, including \$8 million for OSHA type projects. This level of expenditure for health and safety activities at the enrichment plants attests to DOE's strong commitment to the program.

Within DOE, the Assistant Secretary for Environment (EV) has the overall responsibility for setting health and safety standards and policy. It is through EV that various DOE orders and directives regarding health and safety are issued to all of DOE, including the Program Offices in Headquarters and the various field installations. EV also oversees compliance with these orders.

In the case of the three enriching plants, I have been assigned the ultimate responsibility for the enrichment program including health and safety performance. In turn, I have assigned to the Oak Ridge Operations Office responsibility for implementation of the uranium enrichment program and for complying with all applicable DOE orders and directives including those for health and safety. The Oak Ridge Operations Office has a contract with the Nuclear Division of Union Carbide Corporation (UCC-ND) to operate the diffusion plants in Oak Ridge, TN and Paducah, KY, and with Goodyear Atomic Corporation (GAT) to operate the diffusion plant at Portsmouth, OH. The contractors operate these facilities under a cost-plus-fixed-fee, or an award-fee

arrangement. Both UCC-ND and GAT are paid a fee for providing a service only--they have no financial interest per se in the plants. Upon issuance of Headquarters' orders and directives, the field installations (such as Oak Ridge) issue their own supplemental instructions to their operating contractors setting forth local responsibilities and authorities plus any specific instructions on compliance with the Headquarters' policies and objectives.

The Department's health and safety program operates on the philosophy that line management within the contractor's organization and DOE's program management are responsible for assuring the health and safety of workers. Safety staffs at all levels are generally independent of any program or production responsibilities. Their role is to advise and recommend to the responsible DOE contract administrators health and safety policy procedures and standards, and to identify the resources necessary to assure a safe and healthy work environment. At the Oak Ridge Operations Office, the various staff functions (including safety) are utilized to execute and independently assess activities in their functional area and provide any necessary support to the contract administrator. For the three enrichment plants, the Manager at Oak Ridge has formally designated the Director of the Enrichment Operations Division to be the contract administrator. Accordingly, the Director acts on behalf of the Manager (who is the contracting

officer) and is authorized to commit resources and funds. The contract administrator for the three plants relies on the expertise of the various staff organizations to supply the professional support and perform the activity requirements of their functions. The staff of the Safety and Environmental Control Division of Oak Ridge provides this service in the area of health and safety. If at any time a conflict develops between the contract administrator and the responsible staff organization, it is instantly referred to the Operations Office Manager for resolution. As the ultimate decision maker for field operations, the manager then objectively balances the positions of both parties.

DOE regulates the health and safety program at the enrichment plants in a different environment than that usually experienced by DOE or NRC. Our system operates on the concept that we identify the objectives to the contractor, and the contractor develops the various means of meeting the objectives together with the needed resources. It is, therefore, the contractor's expertise and staff which are primarily relied upon to develop and execute the programs but all under the direction and consent of the Operations Office. Accordingly, the small Oak Ridge staff (650 federal employees) works with the contractor's staff to establish priorities and identify needed resources. This is

in contrast to the relationship between a regulatory agency and private industry, in that DOE has a continual presence in the enrichment plants and provides the resources for all safety activities and improvements.

III. DOE Actions/Steps to Investigate and Correct Identified Health and Safety Problems

Even though we are confident we have an excellent health and safety program, DOE recognizes that health and safety issues/allegations will continue to arise. Many of the issues come from the contractor employee complaints program established at each plant. DOE has a policy of reviewing and when necessary, conducting on-site investigations of health and safety complaints and allegations. Since Oak Ridge started this program in 1975, they have received a total of 126 complaints from all ORO contractor employees. Of the 126 complaints, 92 were from employees of the three diffusion plants. The Oak Ridge Operations Office handled all of the complaints except 27, or 21 percent, which were referred to the contractor for more expedient resolution. No system can have zero defects, and, accordingly the complaint program provides the mechanism to pick-up system defects and deviations. Although the complaint system has not uncovered significant problems, since 1975, Oak Ridge has conducted 33 on-site investigations. Twenty-one percent of these investigations uncovered violations of standards.

A recent example of actions taken by the DOE to investigate health and safety allegations at the enrichment plants is the special DOE investigating committee established by the Assistant Secretary of Resource Applications to investigate allegations and health/safety complaints raised by the local Oil, Chemical and Atomic Worker's (OCAW) union at Portsmouth in a letter to Senator Metzenbaum. The Department was advised last July by a letter from Senator Metzenbaum that the union had reported that certain health, safety and environmental controls and procedures were not being followed by the operating contractor of DOE's Portsmouth enrichment plant. The DOE committee formed to investigate the specific allegations was composed of top level managers from the Oak Ridge Operations Office, and Headquarters' program and safety offices. This committee conducted an extensive review of the Goodyear Atomic Corporation's health and safety procedures and policies including a week of on-site investigations performed last February. During the investigation, the committee inspected all major process and support buildings at the Portsmouth plant and interviewed a number of hourly employees, supervisors, health and safety personnel, and union officials. The results of the investigation were published by the Department in two reports, a Phase I report issued September 18, 1979, and a Phase II report issued April 22, 1980. Copies of these reports have been given to this Committee. The DOE committee's findings were formally transmitted to Senator Metzenbaum on May 22, 1980, and I would like to take this opportunity to summarize them:

- Of the 28 health, safety and environmental allegations made by the union, only two were totally substantiated and three were partially substantiated. Improvements in enforcement of respiratory protection requirements, updating of operational procedures and their implementation, and the restructuring of the electric and hazardous work permit procedures were the major recommendations of the committee. Improved ventilation in some maintenance areas and accelerated decontamination of certain process buildings were areas of improvements also recommended by the committee and issued to Goodyear Atomic Corporation.
- Allegations concerning unsafe operations, violation of environmental release standards, unfair labor practices, and inadequate safety procedures were not substantiated by the investigation.
- The committee noted that safety is both a management and labor responsibility and expressed concern that both management and labor did not always rigorously follow all safety procedures. This has been called to the attention of the local union (OCAW Local 3-689) and the Goodyear Atomic Corporation.

This DOE investigation of the health and safety program at Portsmouth was extensive and objective. This is attested to by the other deficiencies, not related to the specific OCAW allegations, observed by the committee during the site visit, which resulted in several additional recommendations being included in the final report. The results of the committee investigation were formally transmitted by DOE management to both the Goodyear Atomic Corporation and the local

union in late April. Following our standard procedures for implementing findings of an investigation, the Goodyear Atomic Corporation has been directed to develop an action plan to implement the recommendations of the committee as soon as possible, and to report to DOE's Oak Ridge Operations Office monthly on the progress.

I hope that this discussion on DOE's policy to investigate employee health and safety complaints, as well as the other special investigations performed, adequately reflects to the Committee our determination to investigate aggressively and correct promptly any observed deficiencies in the health and safety programs at the enrichment plants.

IV. Comments on GAO Report

I would now like to present DOE's comments on the GAO report entitled "Department of Energy's Safety and Health Program for Enrichment Plant Workers is Not Adequately Implemented". The Department had the opportunity to review and comment on a draft copy of this report and our comments were forwarded to the GAO on June 12, 1980. As the Committee members will recognize from my earlier comments on the DOE health and safety program, the report focuses only on a part of the DOE health and safety activities at the enrichment plant, namely, implementation of the oversight/enforcement functions under the responsibility of the Oak Ridge Operations Office.

Before I provide specific comments on the conclusions and recommendations contained in the report, I would like to address the section of the report which provides information on accidents and release of process gas (UF_6) at the enrichment plants. The report cites the eleven industrial accidents that have occurred at the plants since 1970, a period of ten years. Three of these accidents were the result of employees not following prescribed procedures. Six were the result of electrical or mechanical equipment failure, and one could be classified as an operating problem. Contrary to GAO statements in the report, it is doubtful, in our view, that any of the above accidents could have been prevented by more frequent inspections or assessments by the Oak Ridge Operations Office. Only one accident, the dropping of a large UF_6 cylinder from a straddle carrier, in our view, might have been prevented by a timely safety assessment; however, it is highly unlikely that a plant safety inspection would have identified a faulty clamp on a straddle carrier.

To be properly understood, the amount of UF_6 accidentally released and the total number of UF_6 releases, must be considered in terms of the amount of UF_6 handled. Since 1970, about 7,000 kilograms of uranium were released out of a total of 145,000,000 kilograms

of uranium processed in the plants. This is a fractional loss of 0.005 percent. Six thousand of those 7,000 kilograms were lost from one cylinder drop accident. In our opinion, this is an excellent operating record. Let me now comment on the specific findings and recommendations contained in the GAO report.

Safety and Health Inspections

The GAO reports that while inspections are required each year from 1976 to 1979, the DOE has conducted only five OSHA type inspections at the three enrichment plants. Since the OSHA type inspection program began in fiscal year 1975, DOE's Oak Ridge Operations Office has actually conducted 11 inspections (3 at Oak Ridge, 4 at Paducah and 4 at Portsmouth). Because of the shortage of health and safety professionals in 1978 and 1979, the Oak Ridge Operations Office was forced to reduce the number of inspections in those years to place emphasis on higher priority health and safety activities, which in management's view had a greater impact on the overall health and safety in the enrichment plants. As indicated in the Department's formal response to the GAO, steps are now being taken to increase health and safety staffing levels at Oak Ridge. I am pleased to report to the Committee that since the GAO review was performed that health and safety inspections have been performed at each of the enrichment plants.

Regarding GAO's comment that DOE does not independently check radiation levels in the plant during inspections, the Department has on several occasions considered the merits and cost effectiveness of such a program. However, in view of the excellent radiation exposure history at the plants, the nature of the material handled, and the extremely low levels of radiations involved, we do not believe such a program is warranted.

Health and Safety Appraisals

In addition to inspections, health and safety appraisals are an important part of DOE's health and safety enforcement program. The appraisals are structured primarily to test the adequacy of the contractor's system established to accomplish DOE objectives. In commenting on the scope of appraisals, the GAO report says that the DOE appraisals do not focus on "major" problem areas, as identified by employee complaints. In our opinion, the appraisal system must focus on the contractors' development and implementation of environmental/safety/health program elements if major problems are to be avoided. Other mechanisms exist to investigate and follow-up on specific employee complaints. However, how well the contractors follow up on complaints and DOE directives is one of the appraisal elements.

The frequency of appraisals is governed by DOE Order 5482.1. This order allows DOE's field managers the latitude to vary the frequency of appraisals depending upon the nature and level of risk

involved in the operation. While I agree with the GAO statement that Oak Ridge Operations Office appraisals at the enrichment plants may not have been conducted as often as would have been possible with proper staffing levels, there is no factual evidence to support the GAO conclusion that "... appraisals have not been performed as often as necessary to ensure employees safe and healthful working conditions". We believe that the excellent safety records of these plants provide a much better indicator of the working conditions at these facilities.

Employee Complaint System

In reviewing the effectiveness of the Department's employee safety complaint system at the enrichment plants, the GAO states that DOE, in many cases, "... has delegated complete responsibility for handling complaints received by DOE to the contractors." The receipt of a complaint by DOE does not automatically imply that the individual desires an independent review. On many occasions, we have found that the individual was not aware of the channels available at the plant to investigate and resolve such complaints. It is our policy not to refer a complaint to the plant for action without the full consent of the employee. Over the period covering fiscal years 1973 to 1980, 92 employee complaints were received by the Oak Ridge Operations Office. Evaluation of the complaints resulted in the Department or the contractor investigating 52 of the complaints. Of the complaints investigated, only six were found to involve safety or health violations.

Although DOE's procedures do not specifically state that follow-up is required to assure that proper action was taken on complaint investigations, we agree with the GAO recommendation that it is a good management practice to do so. Follow-up procedures are normally pursued through routine professional contacts between the health and safety staffs of the Department and the contractor. We acknowledge that this type of informal follow-up may result in incomplete documentation. Therefore, we are taking steps to formalize the system by maintaining complete and auditable records on follow-up actions for each employee complaint investigated.

Another criticism of the DOE complaint system contained in the GAO report was that DOE was not following its own procedures which require a written response to each employee filing a complaint. Of the 92 complaints received, the Oak Ridge Operations Office did not provide a written response to 27 employees; however, ten of these employees were provided an oral response. We are taking steps to strengthen the employee complaint system to assure that all employees filing a complaint will receive a formal written response from DOE indicating the action taken on the specific complaint.

Independence and Enforcement Authority

The GAO report also recommends that organizational changes be considered by the Department "... to provide insulation between

safety and health concerns and production goals and objectives." Although As I discussed earlier, the existing organizational structure at the Oak Ridge Operations Office does separate the enforcement of the health and safety program from production operations. Furthermore, the independence of health and safety programs within DOE is further assured by the health and safety oversight function that is performed from Headquarters by organizations reporting to the Assistant Secretary for Environment. While the GAO report states that "... we found no evidence that safety and health concerns were supplanted by production ..." goals by the staff of the Oak Ridge Operations Office, the Department is reviewing possible changes regarding the organizational location of the health and safety staff at Oak Ridge to provide further independence.

The GAO report also recommends that Congress authorize the Secretary of Energy to institute a program of nonreimbursable fines and penalties for contractor safety and health violations. There is serious concern that such a system would not be workable under existing Government-contractor contractual arrangements for operation of the gaseous diffusion plants. In our opinion, the incentive of the award-fee contract, that DOE is now employing at the Portsmouth plant, is an effective way to penalize the contractor for unacceptable health and safety performance. Under the award-fee contract, the overall performance rating of the contractor, and the resulting fee, could be

seriously impacted by his performance level on health and safety matters. We believe that the degree of reduced fee payments that could result from poor performance would exceed OSHA's maximum penalty for health and safety violations.

In conclusion, I would like to express our strong belief that DOE's health and safety program at the enrichment plants is an excellent one. Based on the safety performance records of these plants, it would be fair to say that if a person chooses to earn his or her living by working in a factory, the enrichment plants would be among the safest. However, we plan to continue to exercise vigilance to assure that any deficiencies are corrected. Thank you Mr. Chairman and members of the Committee. I would be happy to answer any questions.

ATTACHMENTENRICHMENT PLANTS SAFETY RECORD VS. INDUSTRY1/
Total Lost Workday Cases Per 200,000 Employee Hours

All Industry (1978) 3.46

Chemical Industry (1978) 1.78

Paducah Plant

1978 0.5

1979 0.4

Portsmouth Plant

1978 0.4

1979 0.4

Oak Ridge Plant

1978 0.4

1979 0.3

2/
Total Lost Work Days (Due to Injuries) Per 200,000
Employee Hours

All Industry (1978) 61.0

Chemical Industry (1978) 34.0

Paducah Plant

1978 22.1

1979 6.3

Portsmouth Plant

1978 9.7

1979 16.4

Oak Ridge Plant

1978 22.7

1979 5.8

1/ Total Lost Workday Cases includes injury cases which involve days away from work and days of restricted work activity.

2/ Total Lost Work Days include days away from work and days of restricted work activity.

AWARD FEE PROCEDURE, GOODYEAR ATOMIC CORPORATION (GAT),CONTRACT NO. DE-AC05-76OR00001

In FY 1979 the GAT contract was converted from a cost-plus-fixed-fee (CPFF) contract to a cost-plus-award-fee (CPAF) contract. The CPAF contract provides that the contractor's variable fee will be determined through periodic performance evaluations conducted by DOE-ORO personnel using pre-established measurement criteria. Copies of the Award Fee Plan for GAT and DOE's Procurement Guide for CPAF Contracting are provided as Attachments 5 and 6.

The award fee principle of allowing the Government to unilaterally decide to reward or penalize the contractor for changes in performance is generally viewed as highly subjective. The subjective aspects, however, are associated with the assignment of weights to the various areas selected to be evaluated. The actual evaluation of performance is much more objective since well defined performance objectives and criteria are utilized to determine results.

The Government's leverage in award fee contracting lies in the flexibility afforded the Government in structuring an award fee plan which will motivate the contractor in a positive way to improve performance in specific areas. The Government determines the major performance areas to be incentivized, the relative weights assigned to these areas, the discrete functions to be evaluated, and the assignment of weights to these functions. The performance areas, weights, measurement, criteria, and other matters covered in the award fee plan may be changed unilaterally by the Government prior to the beginning of an evaluation period by written notice to the contractor.

GAT's performance in FY 1980 is being evaluated in three major performance areas: (1) Management and Administration (30% weight), (2) Cost Control (30% weight), and (3) Production and Operations (40% weight). These areas and weights were established by DOE prior to the beginning of the evaluation period. The major performance areas are further broken down into more discrete performance areas such as operations, safety and environmental control, quality assurance, engineering, etc. As mentioned previously, established measurement criteria are used to evaluate the contractor performance in these areas.

PERFORMANCE EVALUATION RATING SCALE GUIDELINES

POOR	MARGINAL	SATISFACTORY	EXCELLENT	SUPERIOR
PERFORMANCE IS SUBSTANTIALLY LESS THAN STANDARD AND MANY CRITICAL AREAS FOR IMPROVEMENT CAN BE CITED.	PERFORMANCE IS LESS THAN STANDARD, ALTHOUGH THERE ARE AREAS OF GOOD OR BETTER PERFORMANCE. THESE ARE MORE THAN OFFSET BY LOWER RATED PERFORMANCE IN OTHER AREAS.	PERFORMANCE IS AVERAGE. AREAS FOR IMPROVEMENT ARE APPROXIMATELY OFFSET BY BETTER PERFORMANCE IN OTHER AREAS.	PERFORMANCE MEETS STANDARD, ALTHOUGH IMPROVEMENT MAY BE REQUIRED IN SOME AREAS, THIS IS MORE THAN OFFSET BY BETTER PERFORMANCE IN OTHER AREAS.	PERFORMANCE EXCEEDS STANDARD BY A SUBSTANTIAL MARGIN. FEW AREAS CAN BE CITED FOR IMPROVEMENT, ALL ON WHICH ARE MINOR.
60 & Below	61 65	70 75	85 90 95	100
Base Fee	AF Pool			
	(Based on % of CDEF)			

ROUTINE PERFORMANCE EVALUATIONS

DOE/ORD REQUIREMENTS

1. MANAGEMENT SYSTEMS/ACTIVITIES.
 - a. Policies, Procedures, Organizations (Degree of Implementation)
 - b. Resource Utilization Baseline (Funds-Personnel)
 - c. Compliance with Technical/Administrative Directives
 - d. Product/Services Provided Baseline (Quantity, Quality, Schedule)

SPECIAL VALIDATION REVIEWS

2. CONTRACTOR INITIATED IMPROVEMENTS
 - a. Contractor Initiated Performance Improvement Activity.
 - b. Results from contractor Initiated improvements above the CDEF baseline in the areas of effectiveness, efficiency, economy, cost reduction, cost avoidance, quantity, quality and schedule.

Attachment 1

Award Fee Conversion Chart

<u>Performance Points</u>	<u>% of Available Award Fee</u>	<u>Performance Points</u>	<u>% of Available Award Fee</u>
100	100.0	80	50.0
99	97.5	79	47.5
98	95.0	78	45.0
97	92.5	77	42.5
96	90.0	76	40.0
95	87.5	75	37.5
94	85.0	74	35.0
93	82.5	73	32.5
92	80.0	72	30.0
91	77.5	71	27.5
90	75.0	70	25.0
89	72.5	69	22.5
88	70.0	68	20.0
87	67.5	67	17.5
86	65.0	66	15.0
85	62.5	65	12.5
84	60.0	64	10.0
83	57.5	63	7.5
82	55.0	62	5.0
81	52.5	61	2.5
		60	0.0

GAT AWARD FEE DATA

<u>RATING PERIOD</u>	<u>BASE FEE</u>	<u>AWARD FEE AVAILABLE</u>	<u>AWARD FEE EARNED</u>	<u>ADJECTIVE RATING</u>
1st Half FY 1979	915,000	610,000	320,000	Satisfactory
2nd Half FY 1979	915,000	610,000	382,043	Excellent
1st Half FY 1980	1,012,500	675,000	379,270	Excellent

Note: Total fee available to the contractor consists of the base fee plus the award fee pool.

AWARD FEE DETERMINATION PLAN FOR
 GOODYEAR ATOMIC CORPORATION
 CONTRACT NO. DE-AC05-76OR00001
 MODIFICATION NO. M025

September, 1978

Revised - September, 1979

APPROVED BY:

Charles A. Keller

Charles A. Keller, Chairman
 Award Fee Board

Prepared by:

Rick Collier
 Enriching Operations Division

2. Introduction Preface

Attachment 4

This Plan contains the basic policies and procedures to be used in the evaluation and review process associated with the Cost-Plus-Award-Fee (CPAF) contract applied to Goodyear Atomic Corporation (GAT) under Appendix C to Contract No. DE-AC05-76-OR00001, Modification No. M025. It will be used to establish the uniform policy and procedures for (1) evaluating GAT's performance under an award fee contract, and (2) determining the appropriate amount of award fee associated with the GAT contract. This Guide is intended for the use of all ORO personnel who have a responsibility for and participate in the evaluation and review of GAT's performance under the provisions of the CPAF contract. (R)

CONTENTS

	<u>Page</u>
A. INTRODUCTION	1
B. SCOPE	1
C. ORGANIZATION	1
D. EVALUATION CONCEPT	2
E. METHOD FOR DETERMINING AWARD FEE	5
F. CONTRACTOR PARTICIPATION	5

APPENDICES:

1. Award Fee Board Members
2. Performance Evaluation Committees
3. Information Flow Chart
4. Conversion Tables for Award Fee Ratings
5. Award Fee Chronology
6. Fee Arrangement
7. Rating Accumulation Form
8. Appendix C to GAT Contract
9. Objectives and Performance Criteria
10. Appraisal Guidelines OR 13XX.1

A. INTRODUCTION

This plan covers the administration of the award fee provisions of Contract No. DE-AC05-76OR00001, Modification No. M025, with the Goodyear Atomic Corporation. Contained in this plan are policies and procedures that have been established for (1) evaluating GAT's performance under an award fee, and (2) determining the appropriate amount of award fee associated with this contract. This standardization is essential to assure the effective administration and coordination of all phases of this CPAF incentive contract. (R)

To the extent authorized or directed by the DOE, GAT shall perform the work and services described in the contract at the Government-owned buildings and facilities generally referred to as the Portsmouth Gaseous Diffusion Plant located in Pike County, Ohio, in accordance with programs approved in writing from time to time by the DOE. The scope of work described in Article III of the contract, as revised, remains an appropriate general description of the managerial and operational undertaking by GAT.

B. SCOPE

The CPAF contract is a cost type contract which provides that the contractor's variable fee will be determined through periodic performance evaluations conducted by DOE-ORO personnel using pre-established measurement criteria. The award fee determination is not subject to the provisions of the Dispute Clause of the GAT contract. This plan for determining the amount of award fee is designed specifically for the GAT Award Fee contract.

It is intended that the award fee provisions of the contract will provide the contractor an opportunity to earn increased fee commensurate with the achievement of optimum performance in pursuit of contract objectives and goals. To earn a fee above that previously paid under the CPFF contract, the contractor must demonstrate to ORO's satisfaction, through their own initiative, that improvements have actually been accomplished. As such, the contractor must assume an innovative and initiating role in providing evidence of improved performance. The CPAF concept is structured such that the higher evaluation rating levels (i.e., Excellent and Superior) are reserved basically for recognizing contractor-initiated self-appraisal activities and actions for improvement. Obviously, the degree of performance obtainable will be determined by considering the achievement of contract objectives in light of the contractor's most effective utilization of available resources. (R)

C. ORGANIZATIONAL STRUCTURE FOR AWARD FEE ADMINISTRATION

The organization structure for the GAT - CPAF contract will include a Fee Determination Official (FDO), an Award Fee Board (AFB), and Performance Evaluation Committees (PEC's).

C. ORGANIZATIONAL STRUCTURE FOR AWARD FEE ADMINISTRATION - cont.a. Fee Determination Official

The FDO for the GAT Award Fee contract is the Manager, ORO. He will review the recommendations of the AFB and determine the amount of award fee to be allotted the contractor for performance during specified periods. He will also review contractor appeals and make a final determination of the amount of award fee to be allotted the contractor.

b. Award Fee Board

An Award Fee Board (AFB) has been appointed by the FDO for the CPAF contract (see Appendix 1, Revision 1). The AFB, whose chairman was selected by the FDO, will review the Performance Evaluation Reports prepared by the Performance Evaluation Committees (PEC's) and recommend to the FDO award fees commensurate with contractor performance. (R)

c. Performance Evaluation Committees

Performance Evaluation Committees (PEC's) have been designated by appropriate ORO Division Directors (see Appendix 2, Revision 2). The PEC's generally consist of representatives of the appropriate technical and administrative divisions at ORO. Each PEC is headed by a chairman who is also selected by the Assistant Manager or Division Director. The PEC's are responsible for monitoring the contractor's performance utilizing established performance measurement objectives, criteria, and standards. PEC's are to meet frequently to review the contractor's performance and on a semiannual basis are to prepare and submit a PEC Report to the AFB Chairman with copies to the Contract Administrator and the Office of Performance Evaluation (OPE). The PEC Report submitted to the AFB Chairman should include a recommendation for adjectival and numerical rating to be assigned to performance for the evaluation period; copies of the PEC Report going to the Contract Administrator and OPE should contain only the adjectival rating. (R)

If requested, the Office of Performance Evaluation (OPE) will provide assistance to the AFB and PEC's in (1) identifying areas to be evaluated, (2) developing criteria, subcriteria and mechanisms for performance measurement, (3) evaluating adequacy of appraisals, and (4) organizing and conducting special reviews.

D. EVALUATION CONCEPT

The key to effective evaluations is a comparison of the contractor's achievements against established programmatic and administrative objectives. (R)

D. EVALUATION CONCEPT - cont.

- a. The formal evaluation process consists of (1) semiannual appraisals of GAT's performance by members of the Performance Evaluation Committees, (2) semiannual reviews of the evaluation reports and recommendations of earned award fee by the Award Fee Board, and (3) final award fee determination by the Fee Determination Official (see Appendix 3 for information flow chart). (R)
- b. For the FY 1980 evaluation period the contractor will be evaluated in three major areas: (1) Management and Administration, (2) Cost Control, and (3) Production and Operations. Each of these major areas are to be broken down into performance objectives and evaluation standards. (R)

In evaluating the contractor's performance on any specific function, the PEC's should consider, but not be limited to, the following contractor activities:

- planning (setting objectives, establishing priorities, allocating resources, setting procedures, etc.)
- organizing (establishing structure and relationship, defining authority and responsibility, etc.)
- staffing (recruiting, training, development, etc.)
- directing (accomplishing coordination and communications)
- controlling (establishing reporting systems, developing performance standards, measuring results, and taking corrective action)

One prime consideration in the evaluation process is that the contractor's efforts must be evaluated on the basis of those factors which are under his control. For example, GAT should not be penalized for failure to meet an environmental standard if funds needed to comply with the standard have been requested by GAT (and concurred in by DOE) but not made available by DOE. It is the PEC's responsibility to find measureable factors which the contractor can control and which can be measured objectively, after the fact. (R)

- c. Since the award fee concept is viable when the expense of administration is minimized and the performance areas evaluated represent areas for potential improvement, the following performance evaluation areas and insights reflect those recommended by cognizant ORO Divisions as the most meaningful for the evaluation period. These areas and weights may change from evaluation (R)

D. c. EVALUATION CONCEPT - cont.

period to evaluation period as conditions and/or performance associated with the contractor's activities vary. Prior to each award fee period, the contracting officer will notify GAT in writing of the areas to be evaluated. (R)

<u>Performance Area</u>	<u>Weighting</u>
(1) Management and Administration	30%
(2) Cost Control	30%
(3) Production and Operations	40%
	100%

- d. The formal evaluation process begins with the PEC's. The PEC's are responsible for monitoring, reviewing, and evaluating the contractor's performance against established objectives and criteria and transforming the results of these evaluations into reports for the AFB. The PEC's reports are to be prepared in the established appraisal format shown in Appendix 10, DOE Order OR 13XX.1 dated July 30, 1979. These reports should not be just a period end evaluation, but should represent an evaluation of the contractor's total management performance throughout the entire period appraised. Each PEC should keep records on major events, either favorable or unfavorable, as well as on the contractor's routine performance. (R)

During the first six months' evaluation period, the PEC's are to use the published FY 1980 objectives, criteria, and standards submitted to GAT (see Appendix 9). These objectives, criteria, and standards may be revised prior to each six-month evaluation period provided that the Contract Administrator and AFB approves. Revisions are to be submitted to the AFB chairman and Contract Administrator at least 30 days prior to the beginning of the evaluation period. (R)

The PEC's, with the concurrence of the Contract Administrator, are to notify the contractor immediately of significant deficiencies which warrant corrective action. Such notification should not be delayed until the end of the evaluation period. (R)

The AFB will meet at the conclusion of each six months' evaluation period to consider the PEC's reports and the contractor's comments concerning these reports; make such adjustments in ratings as they deem appropriate; assign weights to subareas evaluated by the PEC's and recommend an award fee to the FDO. In computing the overall performance rating used in award fee determination, the AFB may utilize the Rating Accumulation Forms shown as Appendix 7.

E. METHOD FOR DETERMINING AWARD FEE

1. Assistant Managers or Division Directors designate chairman and other members of PEC's.
2. PEC's prepare appraisal plans incorporating established objectives, criteria, measurement mechanisms, and standards developed for their areas of responsibility.
3. PEC's use appraisal plan to monitor and evaluate GAT's performance.
4. PEC's rate GAT's performance and prepare their evaluation reports (R) in accordance with (Appendix 10). These reports, with both an adjectival and numerical rating, are sent to the AFB Chairman; copies of the PEC reports, without the numerical rating, are sent to the Contract Administrator and OPE.
5. Within 45 calendar days following the end of each semiannual appraisal period, the AFB is to meet to review the PEC reports, GAT's comments, pertinent appraisal reports, and to assign weights to subareas included under the major functional areas established for the evaluation period. Then, the AFB is to prepare a summary report and make a recommendation to the FDO as to the amount of award fee earned.
6. Within five working days after receipt of the AFB's recommendation, the FDO is to review the recommendations and supporting detail and determine the amount of award fee earned by GAT.
7. GAT is to be notified of the FDO's decision within seven working days after the FDO has received the AFB recommendation.
8. GAT may submit a written appeal within five working days after receipt of the FDO's decision.
9. The FDO is to make his final award fee determination within five working days after receipt of GAT's appeal, if any.
10. If GAT does not appeal the FDO's decision within the specified time, then the FDO's decision becomes final.

A tentative chronology of events for the FY 1980 evaluation period for the GAT Award Fee contract is shown as Appendix 5. (R)

F. CONTRACTOR PARTICIPATION

Contractor participation in the award fee determination process, along with necessary communications between the DOE and the contractor, are important features of CPAF contracts. Generally, GAT should participate in the award fee determination process by: (R)

F. CONTRACTOR PARTICIPATION - cont.

1. Assuming an innovative and initiating role in providing evidence (R) of improved performance,
2. commenting on performance objectives and criteria,
3. providing an assessment of its performance,
4. commenting on evaluation results, and
5. presenting matters to the PEC's or FDO in its own behalf.

The above actions will require periodic informal discussions between ORO evaluators and GAT and formal written and oral presentations by both parties.

APPENDIX 1
Rev. 1 - 7/1/79

GAT Award Fee Board

**Charles A. Keller, Assistant Manager for Manufacturing
 and Support, Chairman**

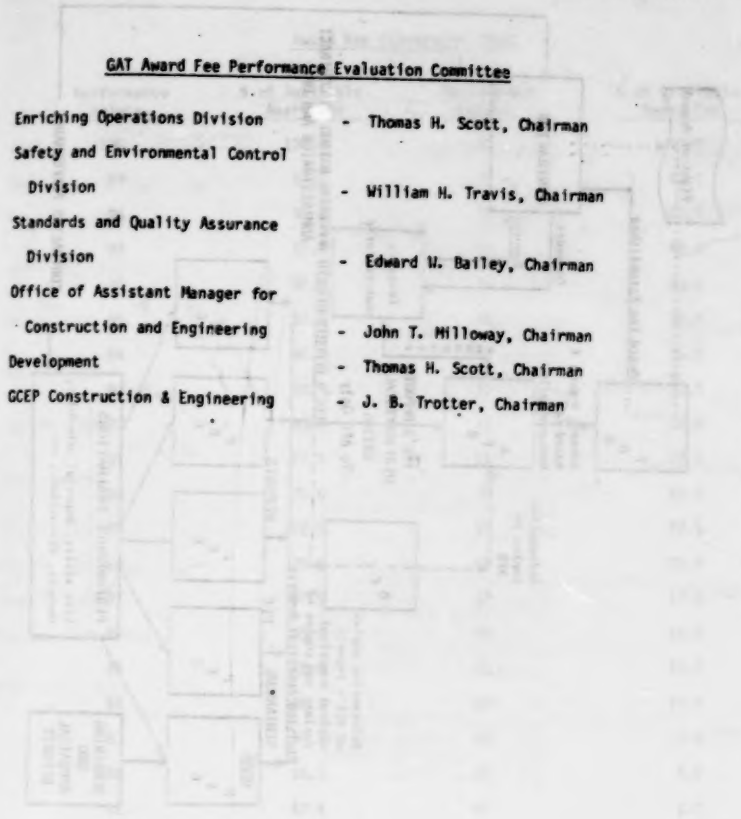
**Ewin B. Kiser, Assistant Manager for Enriching Operations
 and Development**

Francis O. Christie, Assistant Manager for Administration

H. Doran Fletcher, Director, Enriching Operations Division

James W. Swafford, Director, Office of Performance Evaluation

GAT Award Fee Performance Evaluation Committee

- 
- Enriching Operations Division - Thomas H. Scott, Chairman
 - Safety and Environmental Control Division - William H. Travis, Chairman
 - Standards and Quality Assurance Division - Edward W. Bailey, Chairman
 - Office of Assistant Manager for Construction and Engineering Development - John T. Milloway, Chairman
 - GCEP Construction & Engineering - Thomas H. Scott, Chairman
 - GCEP Construction & Engineering - J. B. Trotter, Chairman

Award Fee Conversion Chart

<u>Performance Points</u>	<u>% of Available Award Fee</u>	<u>Performance Points</u>	<u>% of Available Award Fee</u>
100	100.0	80	50.0
99	97.5	79	47.5
98	95.0	78	45.0
97	92.5	77	42.5
96	90.0	76	40.0
95	87.5	75	37.5
94	85.0	74	35.0
93	82.5	73	32.5
92	80.0	72	30.0
91	77.5	71	27.5
90	75.0	70	25.0
89	72.5	69	22.5
88	70.0	68	20.0
87	67.5	67	17.5
86	65.0	66	15.0
85	62.5	65	12.5
84	60.0	64	10.0
83	57.5	63	7.5
82	55.0	62	5.0
81	52.5	61	2.5
		60	0.0

GRADING TABLE

<u>Adjective Rating</u>	<u>Description</u>	<u>Range of Performance Points</u>
SUPERIOR	PERFORMANCE EXCEEDS STANDARD BY A SUBSTANTIAL MARGIN. FEW AREAS CAN BE CITED FOR IMPROVEMENT, ALL OF WHICH ARE MINOR.	96 - 100
EXCELLENT	PERFORMANCE MEETS STANDARD. ALTHOUGH IMPROVEMENT MAY BE REQUIRED IN SOME AREAS, THIS IS MORE THAN OFFSET BY BETTER PERFORMANCE IN OTHER AREAS.	80 - 95 (P)
SATISFACTORY	PERFORMANCE IS AVERAGE. AREAS FOR IMPROVEMENT ARE APPROXIMATELY OFFSET BY BETTER PERFORMANCE IN OTHER AREAS.	66 - 79
MARGINAL	PERFORMANCE IS LESS THAN STANDARD. ALTHOUGH THERE ARE AREAS OF GOOD OR BETTER PERFORMANCE, THESE ARE MORE THAN OFFSET BY LOWER RATED PERFORMANCE IN OTHER AREAS.	61 - 65
POOR	PERFORMANCE IS SUBSTANTIALLY LESS THAN STANDARD AND MANY CRITICAL AREAS FOR IMPROVEMENT CAN BE CITED.	60 and Below*

* No Award Fee - see Conversion Chart, Appendix 4, Page 2.

GAT Award Fee Chronology
(FY 1980 Evaluation Period)

July 15, 1979	Designation of PEC's
August 10, 1979	PEC's complete Appraisal Plan
March 31, 1980	End of 1st semiannual appraisal period
April 20, 1980	PEC's reports to Contract Administrator, OPE, and Chairman AFB
May 1, 1980	PEC reports sent to contractor for comments
May 11, 1980	Contractor's comments to Contract Administrator
May 14, 1980	AFB received Contractor's comments from Contractor Administrator
May 15, 1980	AFB's summary report and fee recommendation to FDO
May 22, 1980	FDO sets fee
May 29, 1980	End of contractor's appeal period
June 5, 1980	FDO sets final fee
September 30, 1980	End of 2nd semiannual appraisal period
October 20, 1980	PEC's reports to Contract Administrator, OPE, and Chairman AFB

November 1, 1980	PEC's reports sent to contractor for comments
November 11, 1980	Contractor's comments to Contract Administrator
November 12, 1980	AFB receives Contractor's comments from Contract Administrator
November 15, 1980	AFB's summary report and fee recommendations to FDO
November 22, 1980	FDO sets fee
November 29, 1980	End of contractor's appeal period
December 6, 1980	FDO sets final fee

FEE ARRANGEMENT*

Base Fee	To be Computed (75% of MAF*)	_____
Total Award Fee Pool	(To be Computed)	_____
Total Fee Not to Exceed 125% of MAF*		_____

Available Award Fee by Evaluation Period

Oct. 1, 1979, to March 31, 1980	(To be Computed)	_____
April 1, 1980, to Sept. 30, 1980	(To be Computed)	_____

Available Award Fee by Major Performance Areas for

First	Evaluation Period	
Management and Administration	(To be Computed)	_____
Cost Control	(To be Computed)	_____
Production and Operations	(To be Computed)	_____

Note: Evaluation periods, distribution of fee to these periods, weights, and performance areas may be changed unilaterally by the Government to reflect changed or altered conditions of performance.

Payment of Fee

Base fee will be paid monthly as accrued.

Award fee will be paid after final determination by FDO and upon billing by GAT.

*Maximum allowable fixed fee under the guidelines of a CPFF contract with GAT would have been _____ for FY 1980 based on 15% of power costs being deducted from the fee base.

APPENDIX J

1. Performance Rating By PCS

PERFORMANCE EVALUATION AREAS									
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Rating	Adj. Rating	Rating	Adj. Rating	Rating	Adj. Rating	Rating	Adj. Rating	Rating	Adj. Rating
100	100	100	100	100	100	100	100	100	100
90	90	90	90	90	90	90	90	90	90
80	80	80	80	80	80	80	80	80	80
70	70	70	70	70	70	70	70	70	70
60	60	60	60	60	60	60	60	60	60
50	50	50	50	50	50	50	50	50	50
40	40	40	40	40	40	40	40	40	40
30	30	30	30	30	30	30	30	30	30
20	20	20	20	20	20	20	20	20	20
10	10	10	10	10	10	10	10	10	10
0	0	0	0	0	0	0	0	0	0
TOTALS	100	100	100	100	100	100	100	100	100

II. Weighted Rating By Major Performance Evaluation Areas

Performance Area	Rating	Adj. Rating
1.		
2.		
3.		
4.		
5.		
6.		

NOTE: Based on information contained in the PCS's reports and other information sources, the Award Fee Board (AFB) will assign weights to the respective PCC for each sub-area and the total weighted ratings for each major performance area. The AFB will then calculate the overall rating and calculate the Award Fee.

1. Rating System For Award Fee Determination

ARTICLE I - AWARD FEE EVALUATION CRITERIA & PROCEDURESA. General

The purpose of this Appendix "C" is to establish the award fee evaluation procedure for determination of the amount of award fee that will be payable under this contract. The amount of award fee payable under this contract may range from no fee to the maximum amounts listed in this Appendix "C" for each of the respective Award Fee Periods specified. The actual amount of award fee determined to be payable shall be called the "earned award fee." The amount of award fee earned each period shall be determined by a representative of the Government, the Fee Determination Official, whose determination shall not be subject to appeal under the "Disputes" article of this contract. Each period's performance award fee shall be determined subjectively by the Government based on the Corporation's performance, in accordance with the procedures and evaluation criteria set forth below.

B. Fee Determination Official

The DOE Manager of Operations, Oak Ridge Operations, is hereby designated as the Government representative to serve as the Fee Determination Official.

C. Performance Evaluation

The Corporation's performance will be evaluated periodically by Performance Evaluation Committees (PEC's). The general areas to be evaluated are enumerated in Item G, below. The PEC's will report their findings in writing to an Award Fee Board. The reports will identify areas of performance which need improvement, as well as areas which are being performed satisfactorily or better.

Within 30 calendar days following the period being evaluated, the Corporation will be provided a copy of the PEC's written reports. The Corporation may, within ten calendar days of receipt of the PEC reports, submit to the Chairman of the Award Fee Board a written response commenting on the PEC reports.

D. Award Fee Board Actions

Within 45 calendar days following the end of each Award Fee Period, the Award Fee Board will (1) convene to consider the performance reports submitted by the PEC's, written comments thereon submitted by the Corporation, if any, and such other information as may be appropriate, and (2) make a written determination for consideration by the Fee Determination Official of what it recommends as a fair and reasonable earned award fee.

E. Fee Determination and Appeal

The Fee Determination Official will, within five working days, review the findings of the Award Fee Board and other pertinent information and will determine the amount of earned award fee, if any, to be allotted for performance during each Award Fee Period. The Corporation will be notified, within seven (7) calendar days, in writing by the Government of the Fee Determination Official's determination.

The Corporation may, within five working days after the date of receipt of the notice, submit a written appeal that the Fee Determination Official reconsider his determination. Such an appeal should include a full explanation of the reasons, facts and circumstances that would justify the Fee Determination Official altering his determination. Such appeal may be conveyed in person.

If an appeal is submitted, the Fee Determination Official will, after having considered said appeal, and within five working days, make a final award fee determination.

If the Corporation accepts the initial determination without appeal or if after a lapse of five working days from the date of notice, the Corporation has not responded in writing, then the Fee Determination Official's initial determination shall become the final award fee.

F. Fee Award

As soon as possible after a final award fee determination is made, the Corporation will be so notified.

G. Evaluation Areas

The areas of performance to be evaluated shall be reflected in evaluation criteria which shall be provided to the Corporation in writing at least 30 days prior to the applicable period. The evaluation areas applicable to all periods shall be the following unless the Government notifies the Corporation otherwise in writing.

1. Management and Administration (weight: 30)

Overall effectiveness of management policies, procedure, initiative and assumption of responsibility. Factors considered will include, but not be limited to, adequacy and effectiveness of overall planning, decision making, budget and fiscal planning and control, establishment of controls to assure proper supervision of the work force and proper utilization of skills, direction of the work force to accomplish assigned tasks in response to urgency of need, coordination and cooperation with cognizant DOE personnel to resolve problems that arise, conduct of small

APPENDIX B (cont'd)

1. Management and Administration - cont.

and minority business subcontracting programs, conduct of EEO affirmative action programs and other aspects of performance reflective of overall management and administration.

2. Cost Control (weight: 30)

Ability to reduce unit production costs, cost reduction program and initiatives and timeliness and adequacy of cost reporting. Factors considered will include adequacy of cost-benefit considerations and exercise of judgment when making schedule, production quality and cost tradeoffs.

3. Production and Operation (weight: 40)

Ability to produce required quantities on schedule; efforts to improve yield and reduce scrap; other efforts to improve productivity; energy conservation efforts, and adequacy and effectiveness of quality assurance, safety and environment, and maintenance programs.

THE RELATIVE WEIGHTS THAT WILL BE GIVEN TO EACH OF THE ABOVE EVALUATION CRITERIA MAY VARY EACH AWARD FEE PERIOD. THEREFORE, PRIOR TO EACH AWARD FEE PERIOD, THE GOVERNMENT WILL NOTIFY THE CORPORATION IN WRITING OF THE RELATIVE WEIGHTS ASSIGNED TO THE ABOVE EVALUATION CRITERIA.

IF WEIGHTS HAVE BEEN ASSIGNED ABOVE, THEY SHALL APPLY UNLESS THE GOVERNMENT NOTIFIES THE CORPORATION IN WRITING OTHERWISE 10 DAYS PRIOR TO THE APPLICABLE AWARD FEE PERIOD.

ARTICLE II - FEEA. Base Fee

The base of Fee for FY 1979 is \$ _____.

B. Award Fee

The available award fee is as follows:

<u>PERIOD</u>		<u>AWARD FEE</u>
<u>From</u>	<u>To</u>	<u>Amount</u>
October 1, 1979	March 31, 1980	\$
April 1, 1980	September 30, 1980	\$
Total		\$

ARTICLE III - PAYMENT OF FEE

- A. Base fee will be paid in monthly installments as it accrues.
- B. Earned award fee, if any, will be paid upon submission of proper invoices after each final determination made by the Fee Determination Official.

ARTICLE IV - DETERMINATION OF FEE

- A. As used in this article the term "fee" shall include both the total base fee and the maximum award fee obtainable. The provisions of this article are not applicable to the determination of the amount of award fee actually earned by the Corporation.
- B. Prior to October 1, 1979, or such later date as the parties may agree upon, the parties will undertake in good faith to negotiate an agreement covering the fee for the performance of the work and services under this contract for one or more subsequent years depending upon the firmness of the program estimates at the time of such negotiation. Such agreement shall be set forth in a written modification of this contract. Agreements upon the fee for any remaining period of the contract not covered by the agreement arrived at as above provided shall be arrived at in like manner. Pending the determination of the fee as aforesaid, the Corporation shall receive monthly a provisional base fee in the sum equivalent to the base fee per month specified in this Appendix "C" for the period of this contract immediately preceding the period for which the amount of the fee has not been determined; and upon determination of such fee the sums so received by the Corporation on account of its provisional base fee shall be adjusted by payment or refund of the amount of the difference, if any, between the total sum so received on account and the amount of base fee so determined.

- (1) If, as a result of any instruction or direction given by DOE pursuant to the provisions of this contract, the level of the Corporation's management effort under this contract is materially increased or decreased, the fee provided for in this Appendix "C" will be equitably adjusted. In the event either party deems that an adjustment in the fee is appropriate, it will, within thirty (30) days after issuance of the instruction or direction, so notify the other party in writing and the parties will attempt to agree upon the amount by which the fee should be increased or decreased. Failure of the parties so to agree shall constitute a dispute within the meaning of the article entitled "Disputes."
- (2) Services pursuant to mutual agreement under the provisions of this contract shall be performed without additional fee unless DOE and the Corporation shall mutually agree in writing that they will constitute a material increase in the level of the Corporation's management effort under this contract, in which event the parties hereto will negotiate in good faith to agree upon an equitable fee for such additional services. Failure of the parties so to agree shall constitute a dispute within the meaning of the article entitled "Disputes."

FY 1980
GOODYEAR ATOMIC CORPORATION

OBJECTIVES AND PERFORMANCE CRITERIA

Goodyear Atomic Corporation

FY 1960

Appraisal Objectives and Performance Criteria

CONTENTS

Activity

Automatic Data Processing

Classification

Development

Engineering and Construction

Finance

Industrial Relations

Maintenance Management

Nuclear Materials Control

Operations

Planning & Budget

Quality Assurance

Safety & Environmental Control

Security & Safeguards

Supply

Systems Management - GSEP

Technical Information

Section

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

ADP ACTIVITIES

OBJECTIVE

1. To effectively identify, plan for and provide the ADP services necessary to support the mission requirements.

PERFORMANCE MEASUREMENT

Adequacy of the organizational structure and staffing to effectively manage the ADP resources IAW, DME and OMB 1030 requirements.

MEASUREMENT REQUIREMENTS

Is the ADP program clearly defined, documented and understood by staff and management personnel? Provide the latest organizational chart and written procedures.

By contributing ADP group:

1. List the specific tasks performed with a man year level of effort expended. Give examples of contributions over the past year.

2. List the responsibility and authority of the ADP group.

Is the ADP staff adequate to accomplish the objectives and requirements? Could it be reduced without impact on mission?

Are there areas of overlapping functions within the ADP groups?

What indicators or control (feedback) systems are used by management to assure that the ADP objectives and recommendations are being met? Are they adequate? Could they be improved through some automated project management system?

Provide the latest and the previous year budget and operating plans. Was the projected resources different from the used resources? Explain the difference.

What methods, economic evaluations, etc., are used in projecting resources and preparing budget plans, etc?

Effectiveness in assigning responsibility and authority, publishing policies and procedures consistent with National and DME policies and directives.

Effectiveness in providing ADP services by identifying, planning for, and providing for required ADP personnel and equipment in budgets, budget plans, and operating/program plans.

MEASUREMENT MECHANISMS

Is the procedure clearly written and understood? Provide the procedure for acquiring and implementing ADPC. (Prior to procurement office actions.)

Does the procedure:

- Provide for checking all in-house services?
- Provide for checking availability of government surplus equipment?
- Provide for considering all reasonable alternatives?
- Provide suggestions on a proper cost benefit analysis?
- Provide suggestions on coordinating with all contractors when multiple contractors are involved?
- Provide suggestions for guarding against overbuying?

Are the written procedures clearly defined, documented and understood by all the software development personnel and management? Provide the latest published procedures.

What Project Management System is used? Is it automated? Does it provide adequate feedback for management to monitor progress, status, etc?

Is a proper study required to define requirements prior to development of software? Is a functional description formally prepared?

2

PERFORMANCE MEASUREMENT

Effectiveness in publishing and following procedures to acquire and implement ADPC equipment.

Adequacy of the procedure to develop applications software.

OBJECTIVE

1. - cont.

2. To effectively define and implement a software development function.

OBJECTIVE

2. - Cont.

PERFORMANCE MEASUREMENT

MEASUREMENT MECHANISMS

Is there any attempt to procure available software either commercially, or from the Federal Software Exchange or some other government agency as opposed to developing locally?

What types of documentation are provided? Documentation is prepared in which standards?

What audit/protection controls are provided for? Coordinate with audit and/or security?

What software tools are used? (i.e., for debugging, efficiency, etc.); is the software properly designed for maintainability? For transportability?

What test/verification procedures are used? Performed by a separate test group?

What modification/change procedure is used?

Are reports available to provide utilization by user? By project, etc?

Determine actual equipment utilization for comparison with projected utilization prior to acquisition.

Adequacy of the equipment data base to provide utilization information and equipment capabilities.

3. To effectively maintain App data bases listing all equipment (CSP and non-CSP) with the capability, utilization and costing information and all critical and sensitive software systems (programs), etc.

List all system software with capabilities for each piece of equipment.

Adequacy of the application program/system inventory to provide information on each application system.

4. Effectiveness in defining, preparing and implementing an Airp Security Plan for classified (sensitive) application IAW DOE 1360.2 and DOE M 5636.

Adequacy of the Security Plan to provide protection of classified and sensitive data and applications.

What types of software are considered system software? Are there any system software utilization reports? Is the system software being used for the intended purpose? (i.e., COOL, Optimizer - does one exist and is it being used?)

What is the change control procedure for system software?

Are project managers aware of this data base? Do they use or refer parts of it to the programmer for use on a new system?

Is any effort made to review and use already developed applications which is available from commercial means, through Federal Software Exchange (for general applications), or through COSMIC (for scientific applications)?

Are other government agencies contacted for software sharing? Or other DOE area offices?

Is the Airp Security Plan clearly defined, documented and understood by staff and management? Provide a copy of the plan.

What mechanisms are provided for base of audit?

What mechanisms are provided to control changes to the applications?

OBJECTIVE

5. Effectiveness in creating and presenting the Long-Range Aqp Site Plan;

PERFORMANCE MEASUREMENT

Adequacy of staff actions and coordination in the initial development and planning stages to identify major Aqp requirements.

Adequacy of budget submissions and estimated costs to support the three year budget cycle plus the out years.

MEASUREMENT MECHANISMS

Provide a copy of the recent Long-Range Aqp site plan. Is the plan clearly presented with adequate study and coordination? What major Aqp requirements were not provided for in the plan? Explain.

CLASSIFICATION ACTIVITIESObjective

1. To provide an effective and comprehensive program to assure that information and material generated and work activities performed which need to be protected in the interest of national security are identified and properly classified.

Performance Criteria

- a. Management support of the classification program.
 - (1) Does top management involve itself as a positive force in the classification program?
 - (2) Does top management show the same understanding of and concern for classification that middle management does?
 - (3) Is the classification activity located high enough in the management organization to function effectively?
 - (4) Is classification situated in the mainstream to be currently cognizant of new programs, directions, etc.?
 - (5) Are adequate staff and resources available for the classification program?
- b. Proper classification awareness and interface within the organization.
 - (1) Are the various levels of management knowledgeable about specific classification guidance pertinent to their areas of responsibility?
 - (2) Does a good working relationship and mutual understanding of problems exist between the classification office and the principal units of the organization?

Classification Activities

(3) Is the competence, number, and availability of authorized classifiers proper?

c. An efficient, well-managed classification program.

(1) Are aggressive orientation and follow-up classification education activities pursued?

(2) Is comprehensive classification guidance, developed on a timely basis?

(3) Does the staff properly indoctrinate, support, supply with necessary guidance, and use the organization's authorized classifiers and classification committee members?

(4) Does the staff have good communications with the organization's authorized classifiers, classification committee members, and the ORO classification office?

(5) Is an aggressive declassification program carried out where authorized?

(6) Does the staff have a classification appraisal program for their contractors?

GASEOUS DIFFUSION TECHNICAL SUPPORT ACTIVITIESObjectives

The objective is to provide technical support of gaseous diffusion, within reasonable time frames and cost parameters, as required for:

- a. implementation of technology in the CIP/KIP to achieve the target capacity.
- b. support to maintain operations of the gaseous diffusion plants at the highest possible capacity to year 2000 or for as long as this capacity is required and economically justified.

Performance Criteria

- a. Evaluate the contractor's initiative and judgment used in technology support for gaseous diffusion.
- b. Evaluate the reasonableness of contractor's management organization and staffing, planning, goals, schedules and cost estimates, and system for comparing these with actual accomplishments.
- c. Evaluate the technical and management innovativeness used by the contractor in gaseous diffusion technology support activities.
- d. Measure the contractors accomplishments in comparison with plans, milestones, schedules, and cost estimates.
- e. Has the contractor responded adequately to request for studies, changes in plans, special research needs, and in supporting plant engineering.
- f. Determine overall efficiency and cost effectiveness.
 - (1) Is the quality of the products developed as a result of research and development reasonable in comparison with the resources applied to develop the product?
 - (2) Does the contractor make efficient use of the resources available in order to assure that the development program is managed in an economical manner?

Section C

8

FY-80

GOODYEAR

Engineering and ConstructionObjectives

1. To assure that the design and engineer functions are performed in an effective and efficient manner.

Performance Criteria

- a. Evaluate project planning with due consideration to operating requirements, status of research and development, and safety considerations - for each construction project to develop a clearly defined scope, reliable cost estimate, realistic and achievable performance schedules, and effective methods of project performance.
- b. Evaluate compliance with established requirements for preliminary proposals, conceptual design reports, and/or Title I reports.
- c. Evaluate compliance with DOE design criteria, fire codes, and necessary quality control and safety requirements.
- d. How effective is the contractor in establishing and maintaining control of all aspects of design and construction scope, estimates, and schedules for projects?
- e. Evaluate timeliness of submissions and quality of preparation of required reports on construction projects.
- f. Evaluate working relationships of operating contractor personnel with DOE and AE contractors.
- g. Evaluate timeliness/quality of GAT's activities on CDR's, Titles I and II design and cost estimates.

Objectives

I. - Cont.

2. To support the construction of facilities in a safe economical and timely manner.

Performance Criteria

- h. Evaluate operating contractor engineering and construction management practices, including adequacy and efficiency of staffing and performance of Title III activities.
- i. Determine whether the contractor complies with Davis-Bacon procedures.
- j. Are budget and accounting procedures complied with for construction jobs regardless of the source of funds?
- a. Evaluate project management and control methods and procedures, including timely and accurate project status reporting against established plans throughout the life of the project, with assured capability for timely recognition of problems and implementation of any necessary corrective actions.
- b. Evaluate contractor efforts in support of all phases of the construction program to (1) satisfy safety, environmental protection, and energy conservation requirements, (2) maintain the project within authorized funding limitations, (3) support project schedules with timely procurement of acceptable RFI to contractors, (4) provide satisfactory plant interface with construction (PAD, SAW) activities, and (5) achieve timely project completion.
- c. Does the contractor comply with Subcontractive and work order procedures?

10

FY 1980

FINANCIAL ACTIVITIESObjectives

1. To determine extent to which the accounting staffs are evaluating and monitoring hourly charge-out rates for the engineering, maintenance, and
2. To determine whether the size of the contractor's accounting staff appears to be adequate to operate the accounting system in a manner such that all necessary accounting information is available to contractor management and DOE-ORO in a timely manner.

Performance Criteria

- a. Have procedures been established to assure that all productive time is being consistently accumulated and charged out to users?
- b. Is there evidence or indications that accounting staffs are monitoring hourly charge-out rates, investigating significant variations inter and intra plant, and taking action to correct deficiencies?
 - a. Determine how many accounting personnel are employed by the contractor in accounting position.
 - b. Compute the ratio of cost incurred (both operating and PM&C, but excluding cascade power) to the number of accountants in the contractor's organization.
 - c. Compute a ratio of the total number of employees in the contractor's organization to the number of accountants in the organization.
 - d. Compare the ratio calculated in b. and c. with other available ratios in an attempt to determine the reasonableness of the contractor's staff.
 - e. Are there any indications that the contractor's accounting function is over or under staffed.

FINANCIAL ACTIVITIES

Objectives

3. To determine that the GAT accounting system contains proper controls over materials and/or services provided other and the initiation of accounts receivable by either GAT or DMF-DMO.

Performance Criteria

- a. Does the accounts receivable department receive copies of all orders for services and/or materials to be provided others by GAT?
- b. Are there controls in effect to assure that copies of all orders go to the receivable department?
- c. Does the accounts receivable department follow-up on open orders to ascertain whether costs are being collected and that invoices were issued for cost collected?
- d. Determine that there are controls in effect to assure that DMO is advised of all toll enriching shipments and the quantities shipped.
- e. Determine that there are controls in operation to assure that a Form 741 entry is input to the HMGSS for the quantity shipped by GAT.

FY 1980

Industrial Relations ActivitiesObjective

1. To conduct an effective industrial relations program.

Performance Criteria

- a. Evaluate salary levels for internal equity and reasonableness in comparison to those paid in appropriate labor market:
 - (1) Exempt salaries vs. corporate or house office practices, and/or national or regional salary trends as reported in surveys of similar groups of employees.
 - (2) Non-exempt salaries and hourly rates vs. local labor markets.
- b. Evaluate labor relations program through assessment of:
 - (1) Extent to which management develops bargaining position prior to formal contract negotiation and discusses approach with DNE.
 - (2) Extent to which DNE is kept advised of changing positions by the respective parties and extent to which contractor recognizes DNE concerns.
 - (3) Extent to which negotiations are concluded without significant deviations from the contractor management's prerogative position, as agreed to by DNE.
 - (4) Extent to which management retains its prerogatives in negotiations.

ObjectivePerformance Criteria

- (5) Extent to which DOE is regularly and adequately advised of all significant matters arising during the life of the agreement.
- (6) Grievance activity - numbers, types, and ultimate disposition.
- c. Measure EEO performance in comparison with minority/female availability data in appropriate labor markets. Also note whether any complaints were found to be valid.
- d. Evaluate the organizational structure and staffing established for the wage and salary, industrial relations, and EEO functions.

MAINTENANCE MANAGEMENT PROGRAM

FY-68

OBJECTIVE

To utilize manpower, materials and funds for the maintenance of property in the most economical and effective manner through the establishment and implementation of maintenance management programs.

PERFORMANCE CRITERIA

- 1) There is a clear understanding of the maintenance management program through the application of published policies, programs, objectives, responsibilities, and authorities for all levels of supervision.
- 2) For each goal and milestone there is a mechanism to compare the actual achievement against the plan and steps are taken to correct deficiencies as they become apparent.
- 3) The priority for maintenance work is assigned in relation to the importance of the work and all jobs approved are completed in a reasonable time frame.
- 4) The most costly items in terms of maintenance expenditures are identified and attention is focused on the small percentage of items generating a large percentage of the problems.

Section 6

15

NUCLEAR MATERIALS CONTROL AND ACCOUNTABILITY

Objective

Establish & maintain an effective and efficient nuclear material control and accountability system encompassing management planning and control, accounting, and reporting of nuclear materials.

(Performance)Subcriteria Parameters

Compliance with Manual Chapter 6th requirements relative to:

1. Organization & Staffing

Measurement Mechanisms

- a. Review technical and non-technical disciplines staffed to accomplish HEMA function.
- b. Review management directives supporting the function and assure that communication channels between plant mgrs. and HEMA staff are unimpeded.
- c. Evaluate the response of HEMA organization to management objectives and/or directives.
- d. Review responsiveness of the contractor in resolving appraisal findings and taking initiative in strengthening the HEMA system.

2. Field audit of facility:

2. Maintenance of records and records systems:

- a. Adherence to generally accepted accounting principles.
- b. Maintenance of adequate internal control procedures.

- a. Statistical sampling of documents of original entry.

- b. Internal control appraisal.

- c. Accountability procedures, manual review and appraisal of implementation.
3. Inventory procedures and practices.
 - a. Review of piece, component, batch, and/or lot identification, appropriateness of segregation by material type, and accuracy of inventory location listings.
4. Measurement systems.
 - a. Review of lab equipment, standards, procedures, calibration frequency, and maintenance practices.
 - b. Review of mass and volume (bulk) measurement equipment, standards, procedures, calibration frequency, and maintenance practices.
 - c. Independent measurements by inspectors to verify contractors quantitative and qualitative statements of inventories of nuclear materials.
 - d. Evaluation of process measurements used in material accounting systems.
 - e. Determination of appropriateness of loss mechanism studies, control over discards, and estimates of equipment holdup.
5. DOE-approved accountability procedures.
 - a. In-plant comparison of on the floor operations vs. DOE-approved procedures for records, inventory, and measurement systems.

6. Statistical programs.
 - a. Review of programs used for evaluation of losses, M_1 , and S/M differences, and the following measurements control programs:
 - a. Scales & balances.
 - b. Analytical quality control.
 - c. Sampling error.
 - d. Volume, temperature, and pressure measurements.
 - e. Nondestructive assay measurements.
 - f. Sample exchange measurements.
 7. Tamper-Indicating Devices.
 - a. Review the system for acquisition, storage, and use of seals and programs to assure serialization as well as evidence of violation for individual seals.
 8. Vulnerability Assessment.
 - a. Review the application of methodology(ies) use to assess the vulnerability of SSNM mt. flows to diversion of significant quantities of mt.

FY 1980
GOODYEAR

Operation Gaseous Diffusion Plant - Portsmouth

Objectives

1. To produce a maximum of enriched uranium efficiently and consistent with power availability, funding levels, and DOE direction; to better cascade and general plant operations by contractor initiated improvements.
2. To meet the product requirements and shipping schedules for all enrichment customers.
3. To promote positive planning and smooth communications within the contractor organization in order to assure the timely identification and correction of problems and/or deficiencies and to improve the utilization of material, personnel, and facility resources.
4. To develop and implement adequate operating procedures, guides, etc., throughout the contractor organization.
5. To provide for the submission of production reports, operating plans, DOE requested studies, and the like, in a timely and accurate manner.

Performance Criteria

1. Compare and evaluate actual accomplishments with production and financial goals based on target power levels and the applicable financial plan funding limitations in the following areas: a) separative work production, cascade power usage, power utilization index, cascade efficiencies, and cost of separative work; evaluate adherence to approved operating plans as originally established with approved modifications.
2. Evaluate contractor initiated improvements, both cascade and general plant operations, in the areas of effectiveness, efficiency, economy, cost reduction, production quantities and quality, etc., as presented by the contractor during the evaluation period.
3. Evaluate work relationships with other DOE contractor personnel and DOE.
4. Evaluate the contractor's performance in meeting customer product quantity and quality requirements and shipping schedules.
5. Review both short and long-term objectives of selected contractor organizations; for each short-term objective, review the specific goals designed to meet those objectives. Evaluate the degree of goal achievement during the evaluation period based upon definitive performance indicators. These objectives, goals and performance indicators are to be approved by contractor management and considered a part of this criteria prior to the beginning of the evaluation period.

6. Evaluate the system(s) developed by the contractor to assure timely identification of problems and the development of proposed solutions and alternatives to those problems.
7. Appraise the contractor's development and degree of implementation of adequate operating procedures, guidelines, etc., to assure the procedures are prepared, understood and followed, periodically reviewed and updated as required.
8. Evaluate the timeliness, quality and accuracy of required production reports, operating plans, DOE requested studies, and the like; evaluate the degree of compliance with documented milestones/schedules in areas such as the reliability program, preparation of safety analyses for the existing facilities, and other areas which may evolve during the evaluation period.

FY 1960
Goodyear

PLANNING AND BUDGET ACTIVITIES

Objectives

1. To plan, implement and manage an effective and efficient formulation and budget execution system within OMO based on guidance provided by DOE in the following areas:

- a. Budgets
- b. Financial Plans
- c. Long-Range Plans
- d. Special studies and reviews

Performance Criteria

1. Adherence to funding limitation.
 2. Adherence to financial plan program controls.
 3. Timely communications of financial plan or budget problems (cost and/or funds).
 4. Appropriate use of funding (Operations, Plant and Capital Equipment and Reimbursable Work).
 5. Adherence to Headquarters and OMO budget assumptions, instructions and due dates.
 6. Quality of budget justifications.
 7. Overall effectiveness of contractor staff in their performance of the budgetary process.
1. Innovation
 - a. Timely and independent identification of problems
 - b. Identification of all feasible alternatives
 2. Coordination
 - a. Intra contractor
 - b. Inter contractor
 - c. Inter contractor - DOE

2. To develop and maintain a technical and analytical capability to perform technical studies, economic analyses, and long-range planning necessary to provide the basis for direction and optimization of the Nuclear Materials Program.

Objectives

Performance Criteria

3. Quality of analysis and reporting
 - a. Accuracy
 - b. Completeness and thoroughness
 - c. Form suitable for use by management
4. Responsiveness
 - a. Timeliness
 - b. Flexibility in responding to changing priorities
 - c. Analysis performed in accordance with scope of DDE request
 - d. Consideration given to total system impact such that recommendations are feasible
5. Organization and Staffing
 - a. Organizational structure responsive to DDE needs
 - b. Quality of staff
 - c. Utilization of staff in manner compatible with DDE priorities
6. Budget submission and administration
 - a. Submission anticipates level of effort requiring funding
 - b. Adherence to estimated costs and approved budget levels

QUALITY ASSURANCE PROGRAM

FY-00

OBJECTIVE

To control at an optimum level, costs and delays caused by quality problems.

PERFORMANCE CRITERIA

- 1) QA personnel are aggressive in seeking out actual or potential quality problems and informing line managers for appropriate action.
- 2) Users or operators of facilities are taking the lead in questioning the adequacy of QA actions during design, procurement, and construction.
- 3) The mandatory requirements of QA-140-021X are understood and are either in place or the deficiencies are recognized and receiving adequate attention.
- 4) The organizational structure and staffing for QA is effective and efficient.

FY 1980
GAT
SAFETY AND ENVIRONMENTAL PROGRAM

Objectives

- A. To conduct an effective and efficient occupational safety and health program in accordance with DOE safety requirements and good safety practices.

- B. To conduct an effective and efficient environmental protection program in accordance with DOE environmental protection requirements.

- C. To conduct an effective and efficient fire protection program in accordance with DOE requirements.

Performance Criteria

1. Effective Management System and staff organization for health occupational safety and health program and safety.
2. Adequate follow-up on recommendations made pursuant to appraisals, investigations and employee complaint investigations.
3. Adequate training of personnel on safety and health matters.
4. Adequate procedures and audit programs for storage and processing of fissile materials.
1. Compliance with applicable environmental protection regulations imposed by Federal, state, regional, and local agencies.
2. Compliance with official DOE imposed environmental protection requirements (EDMAM 0510, 0511, 0513).
3. Adequate response to prior year environmental protection appraisal recommendations.
1. Maintenance of a program that contains the essential elements of an "Improved Risk" facility (EDMAM 0552).
2. Structure and effectiveness of the organization for assuring comprehensive, continuous program.
3. Accomplishment of facility stated objectives as listed in the annual report to ORO/DOE.

Section I.

24

CAT

D. To assure that all nuclear facilities are designed, operated, and maintained in accordance with DOE safety requirements.

1. Adequacy of the formal documented system for identification and control of risks through preparation and review of safety documentation (ERDM 0531).

2. Adequacy of administrative and procedural controls that delineate responsibility for safe operation, independent safety review, and configuration control (ERDM 0531).

3. Adequacy of monitoring and inspection requirements for nuclear facilities (ERDM 0531).

4. Adequacy of documented training program requirements for personnel involved with operations with nuclear materials and a means for determining that trainees are qualified (ERDM 0531).

5. Adequacy of Operating Safety Requirements for nuclear operations (ERDM 0531).

1. Adequacy of Emergency Planning, Preparedness & Response Program (ERDM 0501).
2. Current evaluation and description of emergency communications facilities.
3. Adequacy of vital records system.

E. To conduct an effective and efficient emergency preparedness program in accordance with DOE emergency preparedness requirements.

FY 1980
SECURITY AND SAFEGUARDS PROGRAM

Findings

Objective

1. To safeguard classified matter and special nuclear material from theft, damage, compromise, diversion or unauthorized use and government property from theft or damage.

Performance Criteria

- a. Assess progress in achieving goals for upgrading safeguards posture.
- b. Evaluates safeguards and security organizational structure and staffing to determine their adequacy.
- c. Determine that the physical barriers, identification system, intrusion detection devices, storage containers, protective lighting, materials and document control systems, and similar physical protection systems meet the standards prescribed for the security/safeguards interests.
- d. Evaluate management controls to assure cost effectiveness in the selection of clearance options for employees and subcontractors.
- e. Assess the efficiency in deploying the protective force, the success in improving the quality and vigor of the force and the ability of the force to react and respond in strength to an attempt at malevolent intrusion.
- f. Evaluate the innovativeness and effectiveness of the contractor's security education and safeguards awareness programs.

SUPPLY DIVISION
FY 1980 APPRAISAL OBJECTIVES AND PERFORMANCE MEASURES
FOR GRADYEAR ARMED CORPORATION

Activity	Objective	Performance Measure
Property Management		
1. General Property Management	1. To assure systems are in place to provide for effective and efficient physical and administrative control of personal property.	a. Appropriateness of organizational structure as related to functional mission. b. Appropriateness of staffing levels in relation to workload. c. Adequacy of policies, procedures, practices and facilities. d. Compliance with DOE requirements. e. Adequacy of system for physical protection of property; number of random gate checks conducted and results; number of items reported missing, lost, or stolen and follow-up results.

Goodyear Atomic Corporation

- 2 -

FY 1980

Activity

Objective

a. Materials Management

1. To assure that stores inventory and other materials are available and maintained in optimum quantities to permit continuous operation of the plant; to perform this activity in an efficient and economical manner.

Performance Measure

- a. Timeliness of services; performance goals established by GAT.
- b. Productivity trends:
 - (1) Measurements used by GAT.
 - (2) Total number of employees.
 - (3) Total number of transactions processed.
 - (4) Total direct labor costs.
- c. Average months' supply in current use inventory.
- d. Investment in commodity classes exceeding a 12 months' supply.
- e. Size of physical inventory adjustments.
- f. Results of long supply and no/low usage reviews; action taken based on results.
- g. Cost to order; cost to hold; etc. - date last reviewed.
- h. Number of stock outages; service level achieved.
- i. Variance in inventory levels from approved financial plans.

Activity

h. Equipment Management

Objective

1. To assure the availability, maximum utilization, and control of equipment in support of programmatic requirements.

Performance Measure

- a. Adequacy of system for determination of requirements and management review and approval of equipment purchases.
- b. Acquisition cost of capital equipment on hand.
- c. Size of P&E physical inventory adjustments.
- d. Adequacy of system to assure effective utilization and control of equipment at points of use.
- e. Adequacy of system for controlling sensitive property; quantity and acquisition cost of sensitive property (capital and noncapital); size of physical inventory adjustments.
- f. Adequacy of system for controlling property on loan, amount and acquisition cost of property on loan.
- g. Adequacy of system for establishing and operating equipment pools; amount and acquisition cost of equipment in pools; volume of activity.
- h. Adequacy of system for reviewing title equipment (see d.l.e.).

Activity

2. Motor Vehicle Management

Objective

1. To assure optimum fleet composition and size, economical fleet operation, optimum levels of construction equipment, and proper utilization and disposal of vehicles.

Performance Measure

- a. Adequacy of system for determining annual requirements for passenger-carrying vehicles, nonpassenger-carrying vehicles, and construction equipment.
- b. Adequacy of preventative maintenance program.
- c. Cost of maintenance:
 - (1) Average cost per mile per vehicle.
 - (2) Average cost per vehicle per year.
- d. Adequacy of system for controlling replacement parts and tools:
 - (1) Method of acquisition.
 - (2) Storage and protection.
 - (3) Inventory and issue records.
 - (4) Costing of parts to vehicles.
- e. Adequacy of annual safety inspection program.
- f. Number of reports of unauthorized use and corrective actions taken.
- g. Results of annual construction and material handling equipment inventory.
- h. Adequacy of system for disposing of unneeded vehicles in a timely, efficient manner.

Activity

- d. Management of Idle Property

Objective

1. To assure proper control and utilization of idle property.

Performance Measure

- a. Adequacy of system for determining utilization, retention for future utilization or disposal of idle property including performance of management walk-through inspections in all operating and storage areas at least once every two years.
- b. Adequacy of identification, storage, and record control of idle property.
- c. Acquisition cost of property classified as idle (in-service spares; EISFP; in standby; abandoned-in-place).
- d. Classification changes as a result of walk-through inspections and other management actions.

Objective

1. To achieve effective utilization of excess property made available to GAT as a first source of supply, and timely disposal of property excess to GAT's needs.

Activity

- e. Management of Excess and Surplus Property

Performance Measure

- a. Adequacy of system for screening excess lists and matching property requirements to available excess.
- b. Acquisition cost of property obtained from excess and DIPEC.
- c. Dollar value of procurement avoidance resulting from utilization of excess.
- d. Adequacy of system for identifying and making available to other potential users property excess to GAT's needs.
- e. Acquisition cost of excess and surplus disposed of.
- f. Average time required to dispose of property declared excess to the organization's needs; amount of excess property awaiting disposal.
- g. Quantities of scrap on hand.
- h. Number of sales of surplus property conducted.
- i. Proceeds from sales of surplus property.

Goodyear Atomic Corporation

- 7 -

FY 1980

Activity

f. Precious Metals
Recovery

Objective

1. To assure recovery of precious
metals where economically
feasible.

Performance Measure

- a. Adequacy of system for identifying
precious metal-bearing scrap and
initiating recovery efforts.
- b. Frequency of surveys to identify operations
having recovery potential - results of
surveys.
- c. Number and type of operations generating
precious metal-bearing scrap.
- d. Number and type of operations recovering
precious metal-bearing scrap.
- e. Quantities of precious metals recovered.
- f. Quantities of recovered precious metals
utilized in-plant, transferred to DOE pool,
transferred to vendor pool accounts, traded
in on new purchases, disposed of by
public or negotiated sale.

Activity

- g. Reproduction

Objective

1. To assure required services are provided in a timely and economical manner.

Performance Measure

- a. Compliance with JCP regulations.
- b. Adequacy of equipment to fulfill printing and duplicating requirements.
- c. Volume of in-house printing; operating cost per 1,000 units.
- d. Volume and cost of printing purchased through GPO and direct from commercial sources.
- e. Volume and cost of office copying.

ActivityRecords ManagementA. Program Management

1. To implement and staff a program that effectively and economically controls the generation, maintenance, use, and disposition of Government-owned records, records-keeping equipment and systems.

Objectives

- a. Sufficiency of internal procedures and practices in promoting and complying with the objectives and applicable requirements for handling Government-owned records.

- b. Sufficiency of organization and staffing of the records program to provide effective management support and to accomplish the objectives of the program.

- c. Sufficiency of management control over implementing microfilming, word processing, or other sophisticated records-keeping systems.

B. Records Retention and Disposition

1. To preserve Government-owned records which have permanent value, to retire or transfer records no longer needed in current activities to low cost storage areas, and to dispose of records not warranting further retention.

- a. Adequacy of Records Inventory and Disposition Schedules (RIDS), providing current and complete instructions for the retention and/or disposal of all records.

- b. Adequacy of protection of records which have been determined to have long-term value.

ActivityObjectivesPerformance Measures

- c. Timeliness of routine disposal of records at the expiration of approved retention periods.
- d. Adequacy of removing from high cost office space records not required for conducting daily business and storing in low cost space, either in-house or at FRC's.
- e. Total volume of records compared with previous year's holdings. Volume of records disposed of vs. generated.
- f. Compare contractor records holdings with the ideal standard of an average 3, cu. ft. or less per employee.

ACTIVITYTELECOMMUNICATIONS
MANAGEMENTOBJECTIVE

To provide an efficient telecommunications management program to meet DOE program requirements on a timely and cost effective basis.

PERFORMANCE MEASURE

- a. Determine the degree of efficiency in the utilization of personnel and determine if staffing and organization are adequate to meet functional responsibilities.
- b. Review of telecommunications work volumes for voice (telephone and radio), data, record, and facsimile services and/or equipment to determine adequacy of equipment and services.
- c. Review records and/or operations for compliance with DOE/Federal policies and instructions.
- d. Review of DOE/contractor correspondence, directives and report submissions for completeness.
- e. Review of DOE/contractor correspondence and prior appraisals for corrective actions.
- f. Review inventories and status of equipment and/or services for internal controls.
- g. Determine adequacy of systems vs. requirements and costs.

PERFORMANCE MEASURE

- h. Review utilization of systems vs. requirements and costs.
- i. Review procedures to determine maintenance/spare parts costs and indicators for replacement actions.
- j. Review procedures to determine new requirements and utilization of existing equipment prior to new acquisitions.
- k. Review procedures for mandatory coordinations concerning telecommunications actions. (Procurement, RFP, radio equipment/frequencies, etc.)
- 1. Review procedures for the dissemination and coordination of information pertaining to long-range goals and programs.

OBJECTIVEACTIVITY

FY 1980

CEEP SYSTEMS MANAGEMENT DIVISION

GAT

Activity

ODM philosophy for plant and specific areas as it impacts design

Define Parameters where new and existing systems interface

CEEP Procurement Planning

CEEP Procurement Implementation

CEEP Contract Administration

Objective

Provide ODM information to support design effort in a timely manner to eliminate redesign and to have a viable operating system

Provide interface parameters to design organization where existing systems of ODP are involved.

Perform procurement planning as assigned in ODM-EP-112 and modifications thereto.

Perform vendor surveys, prepare bidders lists, issue bid packages, perform bid evaluation, obtain DOE approval where required, and award purchase order (contract).

Assure vendors comply with terms of CEEP contracts.

Performance Measurement

Timeliness
Completeness
Responsiveness

Timeliness
Completeness
Responsiveness

Timeliness
Cost Effectiveness
Completeness
Coordination

Timeliness
Cost Effectiveness
Completeness
Coordination

Equipment Delivery
Timeliness
Cost Effectiveness
Completeness
Coordination

Section 0

39

TECHNICAL INFORMATION ACTIVITIES

Objective

1. To provide an efficient, effective, and economical technical information program which assures the prompt and full reporting of the results of scientific and technical work to DOE, as well as to the scientific, technical, and industrial communities.

Performance Criteria

- A. Management knowledge of, and support for, the technical information program.
 - (1) Does management understand and promote the technical information program?
 - (2) Does management inform the technical and scientific staff on technical information responsibilities and requirements?
 - (3) Is adequate responsibility and commensurate authority delegated by management to technical information staff?
 - (4) Is meaningful dialogue encouraged and maintained between all management levels and technical information staff?
- B. An established, well-planned, and active program.
 - (1) Is there a functioning, effective, technical information program and is it formalized? Is there adequate policy, procedural, and other guidance?
 - (2) Is the technical information staff qualified and staffed at a level related to the total organization, manpower, and activity levels?
 - (3) Is the staff knowledgeable of, and do they competently apply, the established technical information practice and procedures?

Section P

40

U.S. Department of Energy

OAK RIDGE OPERATIONS OFFICE

ORDER

OR 13XX.1

7-30-79

SUBJECT: APPRAISAL OF ORD AND DOE CONTRACTOR PERFORMANCE

1. PURPOSE. This Order reflects ORD policy and responsibilities for appraisals and award fee evaluations of Oak Ridge Operations Office (ORO) and DOE contractor performance. It also provides interim guidance until a DOE directive on appraisal activity is issued by DOE Headquarters.
2. CANCELLATION. ERDA and OR Manual Chapters 0701, as previously cancelled on October 1, 1977 and April 20, 1978, respectively.
3. SCOPE. The provisions of this Order are applicable to all ORD organizations and should be provided for information to the ORD contractors listed in Attachment 1.
4. PROGRAM OBJECTIVE.
 - a. The objective of the appraisal program is to develop, implement, and maintain an effective ORD contractor and DOE total management appraisal program which will:
 - (1) Provide objective evaluations of the effectiveness and efficiency with which designated contractors achieve established programmatic and administrative objectives.
 - (2) Identify those situations where improvements in contractor performance are required and assure that the improvements are made.
 - (3) Provide a systematic source of information upon which to make determinations concerning contract extensions/renewals, fee negotiations, award fee evaluations, and architect-engineering contract selections.
 - (4) Result in fulfilling the planning, scheduling, performing, reporting, and follow-up requirements of the ORD appraisal program. This will require:
 - (a) Establishment of programmatic and administrative objectives and performance criteria for evaluating

DISTRIBUTION: Principal Staff and to
contractors listed in Attachment I

INITIATED BY:
Office of Performance
Evaluation

the achievements of each major cost-type contractor and notifying contractors of these objectives and performance criteria.

(b) Systematic evaluations of contractor performance through:

- 1 Day-to-day contacts involved in reviewing, guiding, and directing contractor activity.
- 2 Appraisals of contractor performance based on review of activities and functions for which individual staff officials or performance evaluation committees have review responsibility.
- 3 Special reviews of contractor performance in selected areas of responsibility.
- 4 The overall evaluation of contractor performance by Contract Administrator summary appraisals.

(c) Implementation of a procedure for planning, coordinating, and consolidating the flow of information utilized for performance evaluation purposes.

(d) Notification to contractors of the results of the appraisals performed and the recommendations made on any deficiencies noted.

(e) Follow-up to assure that appropriate action has been taken on all formal recommendations made to the contractors.

5. PROCEDURE AND REQUIREMENTS.

- a. Coverage. This Order applies to the performance evaluation of ORO's operating contractors (including multi-program laboratories), on-site service contractors, long-term single purpose contractors designated by the Manager in Attachment 1, and prime architect-engineer (A-E) contractors and subcontractors designated by DOE directives for evaluation and Form IG-11-A reporting. The following functions or areas of activities shall be appraised:

- (1) Program or technical activities such as cost and quality of product, utilization of plant and equipment, achievements in research and development, etc.

- (2) Administrative and support activities such as accounting and finance, auditing, automatic data processing, budgeting, purchasing/contracting, health, industrial relations, invention monitoring and reporting, construction, classification, development, engineering, environmental, maintenance, operations, planning, quality assurance, security, safeguards, safety, printing/reproduction, technical information, telecommunications, nuclear materials, records, property, transportation, and traffic.
 - (3) Broad management functions such as organization and staffing, internal procedures and methods of control, long and short range planning, cost and schedule consciousness, cooperation with others, home office interest and support, overall program and subcontract administration.
- b. Contractor Summary Appraisals. Annual appraisal schedules and summary appraisal reports are prepared for each of the contractors under cost-type contracts designated in Attachment 1. Reports for Cost Plus Award Fee (CPAF) contracts will be in the frequency stated in the contract.
6. RESPONSIBILITIES AND AUTHORITIES. The Manager, ORD, has primary responsibility for assuring that contractor performance appraisals are effectively accomplished.
- a. Appraisal of Contractors.
- (1) Contract Administrators.
 - (a) Prepare and submit annually, to the Director, Office of Performance Evaluation (OPE), overall programmatic and administrative objectives and performance criteria established for each of their cost-type contractors as listed in Attachment 1 of this Order. Also develop, in coordination with the ORD Principal Staff, evaluation plans for CPAF contracts under their cognizance. For general guidance in establishing the objectives and performance criteria, see Chapter III.
 - (b) Obtain, as necessary, technical evaluations and assistance from the DOE Headquarters designated program technical representative in developing standards and criteria applicable to the programmatic objectives, and pursuant to the appraisal policies and objectives of this Order.

- (c) Review, evaluate, and approve appraisal plans, programmatic and administrative objectives, and performance criteria established by other ORO Principal Staff to assure that they will be supportive of the Contract Administrator's overall objectives.
- (d) Prepare and submit annually to the Director, OPE, an approved schedule of functional areas and activities to be appraised over the next fiscal year. These appraisal schedules will incorporate appraisals to be conducted by the Contract Administrator and those to be conducted by other ORO Staff Officials.
- (e) As part of the audit planning effort, advise the Director, OPE, of any areas or activities requiring audit review.
- (f) Prepare and submit annually to the Director, OPE, and the Contractor a summary appraisal in accordance with Chapter I evaluating the contractor's performance in meeting established programmatic and administrative objectives. Incorporate input prepared by other ORO Staff Officials and comments solicited from DOE Headquarters and other field offices relating to selected program activities.
- (g) When requested as part of the preparation for fee negotiation, present briefings to the ORO Manager and his staff on the contents and back-up data and information from the summary appraisal reports.
- (h) Prepare contractor performance reports, Form IG-11-A (see Attachment 3) on specific A-E contractors as required by DOE Headquarters, along with a transmittal letter to the applicable Headquarters office, and furnish to the Director, OPE, for further handling. Form DOE IG-11-A may be obtained from OPE.
- (i) Review and concur in reports of audits, inspections, surveys, and appraisals performed by ORO Staff Officials and transmit them to the contractor within ten days of receipt with a request for a response within 30 days on corrective action implemented or planned on report recommendations.
- (j) With the assistance of the ORO Staff, evaluate contractor responses of corrective action taken or planned on the report recommendations. If corrective action

is not adequate, advise the contractor in writing, with a copy to the Director, OPE, and hold the item open until it is satisfactorily resolved. Also advise OPE if the action is adequate.

- (k) Provide to Director, OPE, copies of all correspondence related to appraisal activity and all subsequent ORD and contractor correspondence relating to recommendations.
- (2) The Principal Staff (applicable to all having responsibilities in such areas as identified in Paragraph 5a):
 - (a) Prepare and maintain a master appraisal plan that reflects the total appraisal program requirement to be applied to each function or area of activity in a complete review cycle. Provide copies to OPE and Contract Administrators.
 - (b) Prepare and submit annually to Contract Administrators, with a copy to the Director, OPE, programmatic and administrative objectives and performance criteria relating to each functional area selected to be appraised over the next fiscal year. Objectives should:
 - 1 Be supportive of the Contract Administrators' overall objectives;
 - 2 Satisfy the Divisions' specific appraisal requirements under various DOE and OR directives; and
 - 3 Satisfy other requirements as determined by the Director, OPE.
 - () Prepare and submit annually to Contract Administrators, with a copy to the Director, OPE, a schedule of functional areas to be appraised over the next fiscal year.
 - (d) Prepare notices of planned appraisals, for transmittal by the Contract Administrator to the contractors, with a copy to the Director, OPE. (Exception: OSHA-type appraisals, security inspections, etc., are not announced in advance).

- (e) Conduct appraisals, including inspections, award fee evaluations, surveys, and reviews of contractor performance as required under DOE and OR directives, and as requested by the Contract Administrators. Prepare within 30 days of completion of the appraisal, appraisal reports and letter for transmittal to the contractor by the Contract Administrator in accordance with guidance in Chapter I. Provide copies of the report to the Director, OPE, and other DOE parties having an interest in the subject matter.
 - (f) Notify the Contract Administrator and the Director, OPE, of any appraisals that are cancelled or deferred and the explanation for the change in schedule.
 - (g) Prepare and submit annually to Contract Administrators with a copy to the Director, OPE, a summary appraisal, in accordance with Chapter I, evaluating the contractor's performance in meeting established objectives. For those functions normally appraised but not formally appraised during the fiscal year, provide Contract Administrators a summary covering any significant contractor performance information. For those contracts with more than one Contract Administrator, prepare a summary for each Contract Administrator covering their assigned activities and prepare an overall contractor summary for submission to the Director, OPE.
 - (h) Assist the Contract Administrators by initiating action to assure follow-up and resolution of functional appraisal findings. Prepare correspondence to contractors relating to appraisal recommendations for signature of the appropriate Contract Administrators.
 - (i) Provide assistance to OPE as requested to support special reviews requested by the ORD Manager and DOE Headquarters.
- (3) Assistant and Deputy Managers:
- (a) Review and comment as necessary on the programmatic and administrative objectives and performance criteria established for each contractor, the annual appraisal schedules, and the annual summary appraisal reports prepared by Contract Administrators and other Staff Officials reporting to them.

(b) Serve as Fee Determination Official or as a member of Award Fee Boards when designated by the Manager.

(c) Provide secretarial support to Award Fee Boards when serving as Chairperson of the Board.

(4) The Director, Office of Performance Evaluation:

(a) Develops and maintains a continuing ORO Management Appraisal System to accomplish the appraisal program objectives.

(b) Establishes requirements so that annual contractor performance evaluations will be based on standardized methods and criteria so as to produce uniform and quantifiable results which may be compared from contractor to contractor.

(c) Requests annually from Contract Administrators and Principal Staff the programmatic and administrative objectives and performance criteria recommended for each contractor designated in Attachment 1 and a schedule of functional areas to be appraised over the next fiscal year. The annual request will contain applicable due dates and instructions on other specific requirements.

(d) Conducts appraisal of the activities of ORO contractors related to ADP activities in accordance with this Order and other DOE directives.

(e) Prepares annually a consolidated schedule showing appraisals planned for the following fiscal year and provides a copy to DOE Headquarters, as required.

(f) Reviews and evaluates programmatic and administrative objectives and performance criteria established by ORO Principal Staff for each contractor, to assure they are supportive of the Contract Administrator's overall objectives and are sufficiently comprehensive to evaluate the contractor operations in the division's area of responsibility and assures that total ORO evaluation requirements are covered.

(g) Prepares a total objectives and performance criteria package for each designated contractor and provides it to the Contract Administrator for approval and transmittal to each contractor. Recommends coverage of such

- aspects as cost, schedules, and technical or scientific and functional or administrative management as necessary.
- (h) Reviews appraisal reports for conformance to ORO policy and provides comments, as necessary, to the Contract Administrators and other ORO Staff Officials.
 - (i) Submits to DOE Headquarters, as required, overall summary appraisal reports for contractors, and performance reports (Form DOE-IG-11-A) on specific A-E contractors.
 - (j) Prepares consolidated annual summary appraisal report covering operations under contractors who are appraised by more than one Contract Administrator.
 - (k) Where appropriate, conducts evaluations of selected areas using teams comprised of individuals from appropriate ORO divisions.
 - (l) Maintains a master file of all appraisal schedules, functional and summary appraisals, copies of all follow-up actions, and forms (DOE-IG-11-A).
 - (m) Coordinates and evaluates the requirements for all appraisals, audits, inspections, special reviews, and award fee plans for each contractor to assure that the performance is adequately reviewed in accordance with ORO's established appraisal program.
 - (n) Serves as a member of Award Fee Boards when designated by the Manager.
 - (o) Serves as Office of Record for Award Fee Board Actions.
 - (p) Provides information to the ORO Manager and Deputy Manager on the performance of the ORO staff in accomplishing the appraisal program objectives.
 - (q) Assists the Contract Administrators by initiating action to assure follow-up and resolution of open appraisal recommendations.
- (5) Directors, Budget and Finance Divisions, when requested, assists the Director, OPE, Contract Administrators, and other Principal Staff by developing cost estimates, cost data, and cost analyses to be used in evaluating specific areas of contractor performance.

OR 130X.1
7-30-79

Page 9

- (6) The Director, Organization and Personnel Division, when requested, assists the Director, OPE; Contract Administrators; and other Principal Staff in evaluating a contractor's organizational structure and staffing.

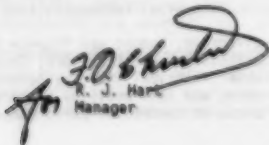
b. Appraisals by Headquarters.

(1) Contract Administrators and the Principal Staff:

- (a) Inform the Director, OPE, of scheduled reviews, inspections, evaluations, appraisals, etc., of ORO by DOE Headquarters staff.
- (b) Provide the Director, OPE, copies of DOE Headquarters reports developed as a result of (a), above, and coordinates with OPE all subsequent correspondence between ORO and DOE Headquarters relating to the report and recommendations.
- (c) Advise OPE of the status of corrective actions initiated as a result of recommendations every 90 days until all actions have been completed.
- (d) See Attachment 2 for additional guidance.

(2) The Director, Office of Performance Evaluation:

- (a) Receives from the Manager, ORO; Contract Administrators; and Principal Staff, reports prepared by DOE Headquarters developed as a result of Paragraph b(1)(a) above.
- (b) Forwards the DOE Headquarters reports to cognizant ORO staff as appropriate for review, corrective action, and preparation of replies.
- (c) Coordinates replies for transmittal by the Manager, ORO, to the DOE Headquarters unit conducting the appraisal.
- (d) Maintains a file and follow-up system on DOE Headquarters appraisals.


R. J. Hart
Manager

DEMO MAJOR COST-TYPE CONTRACTORS AND THEIR RESPECTIVE CND ADMINISTRATIONS

Contract No. & Name of Contractor	Type Contract	Expiration Date	Contract Administrator
DE-AC05-760001833 Center for Energy & Environment Research	Cost-WF	9/30/81	Director, Energy Programs & Support Div.
DE-AC05-760002042 Comparative Animal Research Lab.	Cost Plus Allowance for Overhead	9/30/79	Director, Energy Programs & Support Div.
DE-AC05-760002928 Garrett Corporation (AllResearch Manuf. Co.)	CPFF	9/30/80	Asst. to Asst. Mgr. for Enriching Operations & Development
DE-AC05-760006001 Goodyear Atlantic Corporation	CPAF	6/30/83	Director, Enriching Operations Div.
DE-AC05-760001156 National Lead Company of Ohio	CPAF	9/30/80	Director, Manufacturing Div.
DE-AC05-760000023 Oak Ridge Associated Universities	Cost Plus Management Fee	6/30/82	Director, Energy Programs & Support Div.
DE-AC05-760001405 BNI Company	CPFF	9/30/79	Director, Manufacturing Div.
DE-AC05-790005563 Rust Engineering Co. DE-AC05-790005057 Rust Engineering Co.	CPAF CPAF	9/30/83 9/30/83	Director, Construction Div. Director, Construction Div.
DE-AC05-760006226 Union Carbide Corp., Nuclear Division: Oak Ridge Gaseous Diffusion Plant Paducah Gaseous Diffusion Plant Y-12 Plant Oak Ridge National Laboratory	CPFF	9/30/83	Director, Enriching Operations Div. Director, Enriching Operations Div. Director, Manufacturing Div. Assistant Manager for Energy Research & Development
DE-AC05-780005647 Stone & Webster Engineering Corporation	CPAF	9/30/88	Portsmouth Area Manager

OR 13XX.1
7-30-79

Attachment 2
Page 1

ORO CONTRACTOR APPRAISAL TEAM GUIDELINES

DOE Headquarters and Field Offices are required to use the technique of formal appraisals to monitor the performance of contractors. These appraisals are very useful and effective in identifying and correcting deficiencies in a wide range of activities.

ORO Contract Administrators depend largely on ORO staff organizations for conduct of appraisals in specific areas. They also initiate special investigations as needed. However, Contract Administrators are responsible for giving direction to their contractors concerning appraisal recommendations. In order to maintain a very clear understanding of authority and responsibility, ORO cannot and does not permit communication of recommendations or requests for corrective action to ORO contractors through any channels other than the Contract Administrator.

Appraisal teams normally include only DOE employees assigned to ORO. In some cases, such as incident investigations, employees of contractors have been members of investigation teams headed by ORO employees. This practice is now discouraged, except that contractor employees may act as technical consultants in some specific area; not as official team members signing off on the reports and recommendations.

There are situations where employees of other Field Offices and contractors have conducted appraisals of ORO contractors. A specific example is the system for Quality Assurance appraisals in the Nuclear Weapons Program at Y-12, which sometimes involve employees of ALD, Sandia, and University of California. Employees of ORO have not always been members of such teams. These teams conduct exit interviews with ORO contractors and then issue formal reports to ORO for implementation. ORO intends to limit such appraisal teams to the Nuclear Weapons Program and, because of long-standing precedent, make no changes other than possible increased participation of ORO personnel.

In all other programmatic areas, ORO teams will conduct appraisals of ORO contractors as required, and in response to requirements from DOE Headquarters and other Field Offices as necessary. As a general policy, personnel from DOE Headquarters and other Field Offices may participate as team members but not as chairperson of such teams. If contractor employees from other Field Offices are necessary as consultants to such teams, prior coordination with the Assistant Director of Appraisals (DPE) is required.

We recognize that there will probably be situations where DOE Headquarters teams will conduct appraisals of specific functions being carried out by ORO contractors even though we want to limit such situations. These appraisals should be coordinated with the Assistant

Attachment 2
Page 2

OR 13XX.1
7-30-79

Director for Appraisals (OPE). An ORO employee should accompany such DOE Headquarters appraisal teams, be present during the visit with the contractor(s) involved, and be present during exit interviews. However, ORO requests that recommendations resulting from such DOE Headquarters appraisals be made directly to ORO and not to the contractor. Such recommendations will be transmitted to the contractor through the Contract Administrator and implementation will be mandatory.

With respect to contractors of other Field Offices performing work for ORO, ORO will expect any appraisals to be chaired by DOE employees of those Field Offices. If participation of ORO contractor employees is necessary, they may only serve as consultants to appraisal teams and not as official team members signing off on reports and recommendations. Such participation by ORO contractor employees must have prior approval of the cognizant Contract Administrator.

ORO contractors are not permitted to send teams to conduct appraisals of other ORO contractors unless specifically requested by the contractor to be appraised. When such requests are made, they may be handled between the contractors without ORO being involved. Such requests would not generate recommendations which would be mandatory for the contractor being appraised.

If ORO contractors see a need for a specific appraisal of another DOE contractor, they should request the appraisal through the cognizant Contract Administrator.

For further interpretation of ORO appraisal policy, please contact the Director, Office of Performance Evaluation.

OR 13XX.1
7-30-79

OFFICIAL USE ONLY

ATTACHMENT 3
Page 1 (and 2)

DOE FORM 10-11A (8-79)		U.S. DEPARTMENT OF ENERGY ARCHITECT ENGINEER CONTRACTOR PERFORMANCE REPORT (See reverse side for completion instructions.)		1. CONTRACT NO.	
2. CONTRACTOR'S NAME AND ADDRESS (INCLUDE PARENT COMPANY, DIV. & SUBGROUP)				1b. "A" TYPE OF CONTRACT ☐ INTERIM ☐ FINAL	
				3. MAJOR PROGRAM SERVED AND BUDGET PROJECT NO.	
3. CONTRACTOR'S KEY PERSONNEL (NAME AND TITLE)				4. "B" TYPE OF CONTRACT FIXED PRICE CPFF	
				5. "A" TYPE OF WORK ARCHITECT ENGINEER (A/E) A/E/CONSTRUCTION MGMT.	
4. GOVERNMENT CONTRACTING OFFICER				6. NO. DAY YR.	
				DATE WORK STARTED	
5. GOVERNMENT PROJECT ENGINEER				DATE WORK COMPLETION DATE	
				DATE WORK COMPLETION DATE	
6. GOVERNMENT PROJECT ENGINEER				DATE WORK COMPLETION DATE	
				DATE WORK COMPLETION DATE	
7a. ENGINEERING COSTS				TOTAL (a-b)	
(1) ORIGINAL CONTRACT AMOUNT				\$	
(2) CURRENT (INCL. MOD.) CONTRACT AMOUNT				\$	
(3) ACTUAL (OR ESTIMATED ACTUAL) COST				\$	
b. CONSTRUCTION COSTS				TOTAL	
(1) PRELIMINARY PROPOSAL ESTIMATE				\$	
(2) A/E ESTIMATE "X" either at bid opening or when construction contract was				\$	
(3) ACTUAL BID PRICE				\$	
(4) ESTIMATE AT TIME CONSTRUCTION IS COMPLETE				\$	
11. TITLE OF PROJECT AND LOCATION					
12. DESCRIPTION OF SERVICES AND SUMMARY OF SCOPE OF WORK					
13. SUMMARY EVALUATION (attach construction sheet)					
13. EVALUATOR'S NAME AND TITLE				EVALUATOR'S SIGNATURE	
				DATE	

OFFICIAL USE ONLY

OR 13XX.1
7-30-79

1 and 11

TABLE OF CONTENTS

CHAPTER I - GENERAL ORD APPRAISAL GUIDES

1. Introduction	I-1
2. Scope and Frequency of Appraisals	I-2
3. Programmatic and Administrative Objectives	I-2
4. Conducting Appraisals	I-2
5. Contractor Performance Ratings	I-7
6. Types of Appraisals	I-8
7. Appraisal Format Guidelines	I-9
8. Terms and References	I-10

Attachment I-1 - Performance Evaluation Rating Scale Guidelines	I-11
---	------

CHAPTER II - GUIDELINES FOR DEVELOPING MASTER APPRAISAL PLANS

1. Introduction	II-1
2. Master Appraisal Plan Format	II-1

CHAPTER III - GUIDELINES FOR DEVELOPING OBJECTIVES AND PERFORMANCE CRITERIA

1. Identifying Objectives	III-1
2. Developing and Using Performance Criteria	III-3

CHAPTER IV - CRITIQUE OF APPRAISAL REPORTS

1. Introduction	IV-1
2. Summary and Conclusions	IV-1
3. Recommendations	IV-1
4. Commentary	IV-2
5. Evaluation	IV-2

CHAPTER V - DEFINITIONS

1. Evaluation	V-1
2. Total Management Performance	V-1
3. Effectiveness, Efficiency and Economy	V-1
5. Significant Results	V-2
5. Technical Representative	V-2
6. Subjective and Objective Measurements	V-3
7. Quantitative Measurements or Techniques	V-4
8. Quality Review Measurements	V-5

CHAPTER I
GENERAL ORO APPRAISAL GUIDES

1. INTRODUCTION. The DOE Appraisal Program basic policies, requirements, and procedures are contained in this Order, and will be followed in scheduling, performing, and reporting of appraisals of ORO cost-type contractors' performance. Requirements and procedures in this Order implement agency policies and provide guidance in establishing and accomplishing appraisal objectives. To accomplish the ORO appraisal objectives the principles indicated below should be followed:
 - a. Adopt the principle that the award fees ORO pays will essentially remain in line with previous payments under CPFF until the contractors demonstrate to ORO's satisfaction, through their own initiative, that improvements have actually been accomplished.
 - b. Communicate the above principle to the contractors and request that they assume an innovative and initiating role in providing evidence of improved performance.
 - c. Structure the appraisal and evaluation techniques to this principle, with the higher rating levels (i.e., Excellent and Superior) reserved basically for recognizing contractor-initiated self appraisal activity and actions for improvement submitted to ORO for evaluation.
 - d. Align the contractors' objectives and performance criteria with the rating scale and definitions. See Attachment I-1 as an example.
 - e. Recognize the historical level of the resources provided and the level of activity and performance achieved under CPFF operations as the baseline for measuring performance change.
 - f. Select only key operational, programmatic, and administrative activity for monitoring and use the present ORO appraisal capability to substantiate the performance fee usually earned under the CPFF level of performance.
 - g. Retain where possible the normal cycle for the other appraisals required of technical and administrative functional support areas with the flow of reports from various areas to the Award Fee Board spread across the entire year. Make special validations as required on contractor initiated actions.

2. SCOPE AND FREQUENCY OF APPRAISALS.

- a. Summary appraisals covering significant results will normally be prepared at least annually for each contractor. These appraisals will be prepared on a fiscal year basis and finalized as of December 1 of each year.
- b. The scope and frequency of functional appraisals will depend on relative importance of the activity, past performance, known or suspected problem areas, interval since last appraisal, and special appraisal needs. Detailed reviews of all aspects of each function are not always required to produce sufficient information on which to base an appraisal.
- c. A master appraisal plan is required for each functional area. The plan should reflect the total appraisal requirement for each function or area of activity over a complete review cycle by contractor facility, program, or project as applicable. Some general guidelines for preparing these plans are provided in Chapter II.

3. PROGRAMMATIC AND ADMINISTRATIVE OBJECTIVES.

- a. A program of performance appraisals to be effective depends upon the establishment of programmatic and administrative objectives against which the contractor's performance can be evaluated. The establishment of objectives are to:
 - (1) identify those activities that are of particular interest to ORO;
 - (2) provide standards or baseline data against which contractor's performance of these activities can be evaluated; and
 - (3) establish a basis for relating contractor performance to amount of fee paid.
- b. Guidelines for developing objectives and performance criteria are provided in Chapter III.

4. CONDUCTING APPRAISALS.

- a. Various terms are used to label attempts to examine and make certain determinations about a given activity. Some of the terms commonly used are analysis, appraisal, assessment, audit, evaluation, inspection, survey, review, etc. The connotations of these terms as to the scope and depth of examination intended of course varies by individual and are often used interchangeably.

For purposes of this guide, the use of the term "appraisal" means to bring together in a single program the results of all efforts directed toward establishing a basis for expressing how the contractor has performed the assigned mission. Performance evaluation is directed toward determining the extent to which specific programmatic and mission objectives, including technical, functional, and administrative objectives, are being achieved. Programmatic and mission performance includes not only the quality of end results derived from technical activity, e.g., concepts or products, but also the effectiveness, efficiency and economy with which technical resources (people, equipment, etc.) are expended in pursuit of the end objective.

- b. It is recognized that the measurement of programmatic performance is subject to less precision in some areas than in others. It is, however, most important to quantify the results of evaluation. This means expressing performance either in numerical terms or in clearly defined descriptive categories (e.g., see performance ratings).
- c. Quantification of technical/scientific performance can be accomplished, for example, by:
 - (1) comparing actual results at a point in time with the results which were scheduled to be achieved at that point in time (i.e., comparison against milestones);
 - (2) comparing actual costs expended at a point in time with the costs estimated (budgeted) to be expended as of that point in time; and
 - (3) comparing and analyzing the scheduler and budgetary variances reflected in (1) and (2).
- d. Other attempts at making quantified evaluations of technical/scientific results may have to resort to verbalizing the extent to which the result has achieved, or is likely to achieve, the technical/scientific mission assigned to a project or task. Even in this respect, however, some tangible criteria for evaluation may be developed. For example, in research, the general reputation and acceptance of scientific work by peers in the scientific community are indicative of the quality of research and should be considered in making a performance evaluation. The same is true of periodic status and progress reports, including topical and scientific journal reports. The government's technical representative should establish the basis for evaluating technical performance.

- e. More precise gauges are available for measuring and quantifying the results of performance in the areas of functional or administrative management. Quantification in these areas may be expressed in terms of time, dollars or quantities. For example, evaluation of the procurement function might measure such aspects of performance as the number of Invitations for Bid or Requests for Proposal issued within a certain period of time; in the evaluation of the personnel function one measure used might be the number of overtime hours or number of absentee days. Adherence to schedules, the quantity and cost of a product, the timeliness of reports are examples of quantified evaluation of functional or administrative performance.
- f. Performance evaluation consists of thorough consideration of pertinent data available from:
 - (1) Results-oriented analysis and assessment based on application of relevant criteria which lend themselves to quantification;
 - (2) Clear reporting of findings, conclusions, and recommendations with summary reports of significant results; and
 - (3) Effective follow-up to insure timely accomplishment of needed corrective action.
- g. Performance evaluations should include evaluation of such sources of data as routine and special reports; scientific publications; conferences with key personnel; reviews conducted by consultants and committees; day-to-day contact with operations; results of inquiry into unusual or problem situations; and reports of surveys, audits, inspections, and other reviews.
- h. All DOE activities should make available the results of contractor reviews for use in connection with the reporting of contractor performance evaluation. The individuals responsible for accomplishing the performance evaluations shall develop a system to:
 - (1) continuously review the kinds of data aforementioned;
 - (2) relate such data to the various management activities and functions of the contractor; and
 - (3) determine needed additional data and obtain such by:
 - (a) requesting specific information from the contractor;

- (b) obtaining judgements and suggestions from knowledgeable third parties; and
 - (c) conducting on-site inspections when the need is clearly indicated.
- i. The annual contractor evaluation shall encompass total management performance, which includes all of the contractor's pertinent management functions and activities. The term "functions" includes such areas of operation as: research and development, engineering, manufacturing, quality control, production planning and control, procurement, finance, etc. The term "activities" includes such typical areas of operation as:
- (1) planning (setting objectives, establishing priorities, allocating resources, setting procedures, etc.)
 - (2) organizing (establishing structure and relationships, defining authority and responsibility, etc.)
 - (3) staffing (recruiting, training, development, etc.)
 - (4) directing (accomplishing coordination and communication)
 - (5) controlling (establishing reporting systems, developing performance standards, measuring results, taking corrective action)

In practice, every management "function" engages in almost all of the aforementioned management "activities." For example, manufacturing engages in facilities planning, operations planning, and production planning. Another way of stating this proposition is that "activities" constitute a group of closely-related continuing tasks which make up a significant, identifiable work segment which the contractor must perform in order to achieve his defined objectives and goals.

- j. The use of the term "total management performance" is not intended to imply that the annual performance evaluation requires an in-depth assessment of every function and every activity in the contractor operation. The effectiveness of the evaluation will, therefore, depend upon:
- (1) the identification of those functions and activities to be evaluated;

- (2) the establishment of objectives and performance measures (criteria) to be used for expressing judgment on contractor performance; and
- (3) measuring the attainment of the specific objectives established for each activity within each operating functional area.

As a part of identifying activities for evaluation, it is important that they be concisely defined to insure understanding of the scope and objective of the evaluation of that activity. Part of such definition may include subdividing an activity into the most meaningful work segments.

- k. Another aspect of activity identification, as part of preparing the scope and objectives of evaluation, is to consider the levels at which an activity may be observed. For example, planning is reflected in at least three levels of detail:
 - (1) goals, budgets, performance standards for cost, quality, quantity, etc.;
 - (2) policies, procedures, standard methods; and
 - (3) detailed schedules and specifications.

Normally contractor performance evaluation would focus on level (1).

- l. Factors which would influence the selection of functions and activities for evaluation and the scope of such evaluation would include:
 - (1) evidence that prescribed goals and objectives are either not being achieved or are not being achieved in an outstanding manner;
 - (2) measurable performance deviating from accepted standards, and
 - (3) contribution or deterrent to efficient and economical performance.
- m. Having defined the scope of the evaluation by identifying contractor functions and activities, there is a framework within which to organize all incoming data and ultimately to determine requirements for additional data. The performance of these

OR 13XX.1
7-30-79

I-7

pre-evaluation steps as well as the accomplishment of the evaluation requires experience and knowledge on the part of the evaluating organization. Familiarity with the performance, organization, problems and personnel of the contractor organization, combined with a knowledge of management and technology, are vital inputs to the process. The scope of evaluations will be affected by consideration of the following factors:

- (1) Contractor's performance with respect to the goals in the preceding year Institutional Plan and with respect to contractor's anticipated ability to implement the Plan's current year's goals.
 - (2) Relative importance of the activity.
 - (3) Management's need for information.
 - (4) Past performance experience and appraisal results. Problem areas and key functions representing potential trouble spots should be identified for frequent review.
 - (5) Age of organization. New organizations should be thoroughly oriented with respect to DOE program objectives and management policy as early as practicable. The first evaluation of such organizations should ordinarily be made within the first twelve months of operation.
 - (6) It is not anticipated that a detailed review of all aspects of each function will be required to produce sufficient information on which to base an evaluation.
 - (7) Detailed evaluations (full scope) are required 18 months before the end of a contract period.
5. CONTRACTOR PERFORMANCE RATINGS. It is necessary to reach an overall evaluation of contractor performance when considering contract extensions/renewals, fee negotiation requirements and evaluations for award fee. In order to establish uniformity in ratings used to arrive at the overall evaluation, the following standardized adjective ratings are to be used:
- a. SUPERIOR - Performance exceeds standard by a substantial margin. Few areas can be cited for improvement, all of which are minor.
 - b. EXCELLENT - Performance meets standard. Although improvements may be required in some areas, this is more than offset by better performance in other areas.

- c. **SATISFACTORY** - Performance is average. Areas for improvement are approximately offset by better performance in other areas.
- d. **MARGINAL** - Performance is less than standard. Although there are areas of good or better performance, these are more than offset by lower rated performance in other areas.
- e. **POOR** - Performance is substantially less than standard and many or critical areas for improvement can be cited.

Adequate support must appear in the body of the report to warrant the adjective rating given. Attachment I-1 provides guidance on the performance required to attain certain ratings.

6. **TYPES OF APPRAISALS.** The ORD Appraisal system is comprised of the following types of appraisals:

- a. **Functional Appraisals.** Appraisals, surveys, and inspections, performed by appropriate staff officials evaluating contractor performance, in relation to established objectives and applicable DOE manual requirements, over a specified period of time in those functional areas for which the official is assigned responsibility.
- b. **Award Fee Appraisals.** Periodic appraisals performed by Performance Evaluation Committee evaluating contractor performance for award fee determination.
- c. **Summary Appraisals.**
 - (1) Appraisals performed by Contract Administrator evaluating each cost-type contractor's overall total management performance in meeting established objectives. Results of functional and summary appraisals performed by Principal Staff are taken into consideration in arriving at the overall evaluation.
 - (2) Appraisals performed by Principal Staff evaluating the cost-type contractor's overall performance in meeting established objectives relative to the functional areas appraised during the previous fiscal year.
- d. **A-E Contractor Performance Reports.** Evaluation of A-E contractors prepared by the Contract Administrators in accordance with DOE Headquarters requirements.

OR 13XX.1
7-30-79

I-9

- e. Special Appraisals. Appraisals conducted of selected areas by the Director, OPE, in conjunction with other Principal Staff.

7. APPRAISAL FORMAT GUIDELINES.

- a. Appraisal reports should not be just a period end evaluation but should represent an evaluation of the contractor's total management performance throughout the entire period appraised. Officials responsible for appraisals should keep records on major events, either favorable or unfavorable, as well as on the contractor's routine performance. These major events should be reported in a summary appraisal whether or not a formal appraisal was made for the function during the summary appraisal period. This will aid in making an evaluation covering the entire period.
- b. The appraisal reports will be prepared in the following standardized format:
- (1) Introduction. Purpose and scope of appraisal, period covered, applicable manual or other reference.
 - (2) Summary and Conclusions. Overall adjective rating, in accordance with Chapter I, Paragraph 5, followed by a brief statement as to the effectiveness and efficiency with which each programmatic and administrative objective was met. Include statements of impact on resources (dollars, manpower) or program accomplishments for each major problem encountered and also point out significant accomplishments. Recognition should be given where a major problem was resolved during the appraisal period. Isolated examples of satisfactory or unsatisfactory performance should not be allowed to materially influence the overall evaluation of a contractor's operation. Conclusions must be supported in the commentary.
 - (3) Recommendations. Briefly specify recommended corrective action which needs to be taken by the contractor to improve operations in the area appraised. Briefly comment on actions taken by the contractor to implement prior recommendations that have not previously been closed. Each recommendation must be supported by data in the commentary. If the contractor receives less than the excellent adjective rating, the appraisal report must include recommendations unless special conditions, which are to be specified in the report, make recommendations unnecessary.

- (4) Commentary. Include data that fully and clearly support conclusions and recommendations. At a minimum, comments should be made on each performance criterion. More detailed comments on the contractor's significant achievements as well as deficiencies and current or anticipated problems should be made.

- c. The guidance provided in Chapter IV can be used to critique appraisal reports and assure that information needed by all management levels is provided.

8. TERMS AND REFERENCES.

- a. Some definitions of the terms used in this Order, are provided in Chapter V.
- b. Additional guidance and information for making appraisals and performance evaluation are contained in the following references:
- (1) DOE Procurement Guide PG 9-3.4, Part II, Cost-Plus Award Fee Contracting.
 - (2) DOE Performance Measurement System Guides, DOE/ET-0050/2-8, RDD/PMS. Available from DOE Office of the Controller.
 - (3) Evaluation and Analysis to Support Decision-Making, GAO PAD-76-9. Copies are available from OPE.
 - (4) Draft Order DOE 2250 "Cost Schedule Control Systems Criteria". Available from Office of the Controller, DOE Headquarters.

OR 13XX.1
7-30-79ATTACHMENT 1-1
Page 1PERFORMANCE EVALUATION RATING SCALE GUIDELINES

POOR	MARGINAL	SATISFACTORY	EXCELLENT	SUPERIOR
PERFORMANCE IS SUBSTANTIALLY LESS THAN STANDARD AND MANY CRITICAL AREAS FOR IMPROVEMENT CAN BE CITED.	PERFORMANCE IS LESS THAN STANDARD. ALTHOUGH THERE ARE AREAS OF GOOD OR BETTER PERFORMANCE, THESE ARE MORE THAN OFFSET BY LOWER RATED PERFORMANCE IN OTHER AREAS.	PERFORMANCE IS AVERAGE. AREAS FOR IMPROVEMENT ARE APPROXIMATELY OFFSET BY BETTER PERFORMANCE IN OTHER AREAS.	PERFORMANCE MEETS STANDARD. ALTHOUGH IMPROVEMENT MAY BE REQUIRED IN SOME AREAS, THIS IS MORE THAN OFFSET BY BETTER PERFORMANCE IN OTHER AREAS.	PERFORMANCE EXCEEDS STANDARD BY A SUBSTANTIAL MARGIN. FEW AREAS CAN BE CITED FOR IMPROVEMENT, ALL OF WHICH ARE MINOR.
60 & Below	61 65	70 75	80 85 90 95	100
Base Fee				
AF Pool				
(Based on % of CPFF)				

RATING SCALE

ROUTINE PERFORMANCE EVALUATIONS		SPECIAL VALUATION REVIEWS	
DOE/ORD REQUIREMENTS			
1. MANAGEMENT SYSTEMS/ACTIVITIES		2. CONTRACTOR INITIATED IMPROVEMENTS	
a. Policies, Procedures, Organizations (Desiree of Implementation)	C	a. Contractor Initiated Performance Improvement Activity.	P
b. Resource Utilization Baseline (Funds-Personnel)	P	b. Results from contractor initiated improvements (Improvements above the CPFF baseline in the areas of effectiveness, efficiency, economy, cost reduction, cost avoidance, Quantity, Quality and Schedule).	F
c. Compliance with Technical/Administrative Directives	F		
d. Product/Services Provided Baseline (Quantity, Quality, Schedule)			
(Note: see Attachment 1 - Page 12)			

OAC
RPO
ORV
AEI
SAL
ALE

OR 13XX.1
7-30-79

ATTACHMENT I-1
Page 2

1. The Excellent and Superior rating levels will be basically reserved for recognizing contractor initiated performance improvement activity and the special actions taken by the contractor to improve performance after the basic requirements of the lower rating levels have also been met.
 - a. It is possible for the contractor to sustain an Excellent rating from period to period through effective implementation of the basic DOE/ORO management requirements and sustained CPFF level of performance. However, the amount of award fee associated with this rating of Excellent would be basically the same as that received by the contractor under a CPFF contract. The amount of award fee earned by the contractor above the CPFF amount would depend upon the actions initiated by the contractor to improve performance and the results obtained from these actions.
 - b. The Superior rating level will be reserved for recognizing specific improvement actions considered by ORO to have special merit after the basic requirements of the lower rating levels have also been met in the rating period.
2. Deficiencies, if significant, could also offset the recognition of contractor initiated performance improvement actions to the point that the Excellent and Superior ratings would still not be attained by the contractor.

CHAPTER II

GUIDELINES FOR DEVELOPING MASTER APPRAISALS PLANS

1. INTRODUCTION.

- a. The Master Appraisal Plan is a part of the mechanism used in the ORO appraisal program to assure that:
 - (1) all of the ORO responsibilities for appraisal type activities are fully recognized and responsibility assigned;
 - (2) a plan of action is developed to meet the appraisal program requirements; and
 - (3) a systematic program, with schedules for accomplishment, is used to manage the appraisal effort and can also be used to assess the ORO capability to satisfy the appraisal program requirements.
- b. A Master Appraisal Plan is required for each contractor and should be structured specifically for each individual contractor.

2. MASTER APPRAISAL PLAN FORMAT. The appraisal plans should generally be developed in the following format:

- a. Requirement for Appraisal.
 - (1) Identify specific directives, public law, or other type references which indicate appraisals, evaluations, inspections, or similar type review requirements for the function or activity.
 - (2) Identify any general requirement for appraisal considered applicable, such as contract administration of cost plus fixed fee or award fee contracts.
 - (3) Give the required frequency of the appraisal and discuss any flexibility available in meeting the requirement.
- b. Description of Function or Activity. The scope and characteristics of the operations should be described so that management has a basis for establishing priorities. The full significance of a function may not be obvious from the amount of funds or people assigned. Consequently, information that also shows the effect or potential impact of the activity on other

operational elements is often helpful. Some special sensitivity about a given function may also exist due to concerns expressed by the general public or because enforcement responsibility for the function may be assigned to some other Government agency.

- c. Objectives and Performance Criteria. All of the objectives to be accomplished and the performance criteria used to evaluate their accomplishment should be described in the master plan. The plan should also show a program schedule by year for applying these criteria when the complete appraisal cycle extends beyond one year. Guidelines for developing objectives and performance criteria are contained in Chapter III.
- d. Appraisal Methodology.
 - (1) The proposed methods and techniques for developing appraisal data and information should be discussed in the Master Appraisal Plan. The increasing award fee appraisal requirements dictate that we develop an effective and efficient combination of techniques. The Cost Plus Award Fee appraisal methods, for example, have been traditionally structured around a flow of statistical data and information from the contractors. Government monitors analyze and evaluate this data and information using established baselines. Some other useful techniques include interviews, observations, on-site collection of documentation, statistical analysis, questionnaire, technical and physical examinations and measurements, and computer analysis and evaluation programs.
 - (2) The techniques used will vary with the characteristics of the function; however, there is a need to be alert to any situation that will permit achievement of the appraisal objectives within available resources.
 - (3) ORO contractors should be encouraged to provide data and information which demonstrates their performance against established objectives.
- e. Sources of Assistance. Other sources of assistance in acquiring appraisal information should be discussed in the Master Appraisal Plan. In some instances other DOE groups, such as DOE Headquarters, may have programs for developing performance information. Any potential for routine or special reviews of this type should be noted so that these efforts can be integrated and duplication avoided. Particular areas

OR 13XX.1
7-30-79

1. 1992 2000
2. 1992 2000

11-3

or subjects that have been or could potentially be included in the OPE audit plans should also be discussed and highlighted for coordination.

CHAPTER III
GUIDELINES FOR DEVELOPING OBJECTIVES
AND PERFORMANCE CRITERIA

1. IDENTIFYING OBJECTIVES.

- a. An objective is the end result toward which an activity is directed, the purpose which justifies the existence and performance of an activity. Overall objectives for an activity can be identified by answering the question: Why is this activity being carried on? The answer to the question, for many activities, is likely to be too broad for the development of suitable performance measures. It thus becomes necessary to break down the overall objective into more specific terms. The importance of breaking down the overall objective is especially important when such an objective is scheduled to be attained at a future point, beyond the normal annual evaluation cycle. Many research and development activities fall into this category.
- b. Under these circumstances not only should the end-objective be identified, but annual sub-objectives leading to the eventual attainment of the end-objective should be stated. As a rule of thumb, the number of such sub-objectives should seldom reach five for a specific activity. Beyond five the breakdown of objectives is likely to present expressions of day-to-day goals and/or professional standards, directed more to how rather than why an activity is conducted, i.e., the true end-objective.
- c. Objectives are statements of specific results expected from a given activity. They must be precise enough to indicate to a contractor what is expected of him. Each activity has one or more objectives associated with it. ORO has the responsibility of identifying the objective for those contractor activities they believe should be evaluated. Under normal circumstances a well-formulated objective will:
 - (1) Start with the word "to," followed by an action word.
 - (2) Produce a single Key result when accomplished.
 - (3) Be as specific and quantitative (and hence measurable and verifiable) as possible.
 - (4) Relate directly to the accountable managements' roles and missions.

- (5) Be readily understandable by those who will be contributing to its attainment.
- (6) Be realistic and attainable, but still represent a significant challenge.
- (7) Provide maximum payoff on the required investment in time and resources.
- (8) Be consistent with the resources available or anticipated.
- (9) Avoid or minimize dual accountability for achievement when joint effort is required.
- (10) Be consistent with basic organizational policies and practices.
- (11) Be willingly agreed to by both ORG management and contractor management, without undue pressure or coercion.
- (12) Be in writing, with a copy kept and periodically referred to by management.
- (13) Be flexible enough to take into account a reasonable degree of variation.

d. The following two examples illustrate the objectives associated with two activities.

ACTIVITY

OBJECTIVE

A. Receipt, storage and distribution of property

1. To assure prompt and efficient delivery of property to a using organization when needed.

B. Quality Control Operations

1. To identify and control material from raw material state to final product.
2. To prevent excessive defectiveness or product variability by controlling manufacturing processes.
3. To achieve a high degree of conformance between product characteristics and design requirements.

Each objective should be so stated that its attainment is susceptible to determination, i.e., measurement. Objective(s) whose attainment cannot be independently verified should be discarded. While not all performance measures can be quantitative, the use of qualitative measures (judgement elements) should require more than mere intuition. The development of performance measures is discussed in greater detail in the following paragraph.

2. DEVELOPING AND USING PERFORMANCE CRITERIA.

- a. Performance criteria are the measurements used to ascertain the extent to which the objective has been attained. Each objective should have its own set of performance criteria, covering such areas as efficiency, ingenuity, responsiveness, perceptiveness, thoroughness, timeliness, resourcefulness, accuracy, economy, and quality. Standards or criteria that represent the optimum level of activity for efficiency and effectiveness for the facilities or operation should be used so that all levels of management can be advised of the conditions or factors adversely affecting the achievement of the maximum potential.
- b. Evaluating performance in quantifiable terms requires the development and use of criteria. This term (used interchangeably with the term "standards") may be described in two respects:
 - (1) clearly defined and quantified measures against which to compare performance;
 - (2) objective points of reference for identifying the aspects of a management function or activity which should be inquired into and assessed.
- c. Some recognized sources for obtaining criteria are: the principles of good management; DOE Manual Chapters; other DOE directives and regulations as well as those of other government agencies engaged in similar kinds of endeavor; Federal statutes; and OMB directives. The contract between DOE and a contractor provides a source for criteria such as the schedule, quantities, costs, reporting, etc.
- d. The category of performance measures includes the following two principal types:

(1) Output Measures. The following are some examples:

- (a) Adherence to schedules, policies, procedures, quality requirements, etc.
- (b) Compliance with contract, regulations, etc.
- (c) Timeliness
- (d) Safety and security performance, e.g., number of security infractions, lost time accidents, etc.
- (e) Personnel, e.g., grievances, absenteeism, turnover, etc.
- (f) Responsiveness

1 Record in meeting program assignments on time, and within estimated costs, including:

- a ingenuity and aggressiveness in meeting or improving upon target dates.
- b responsiveness to DOE needs and requests.

2 Inventiveness in advancing the technologies involved, including resourcefulness in incorporating economy and safety into design.3 Quality and originality of ideas and proposals.4 Skill and diligence in planning and organizing work.5 Effectiveness in preparing and presenting budgets, including quality of Schedule 189 estimates (Project Proposal and Authorization).6 Promptness, quality and frequency of technical reports, progress reports, project reports, and general communications.

(g) Policy, organization, and procedures:

1 Adequacy of internal control systems.2 Extent to which policies agree with DOE standards.

- 3 Extent to which there is a clear distribution of responsibility with commensurate assignment of authority.
- 4 Degree to which organizational structure encourages effective communications and decisions.
- 5 Degree to which personnel policies contribute to effective management.
- 6 Stature of individuals and the organization within the scientific community.
- 7 Overall manpower levels in relation to work output.
- 8 Effectiveness of personnel policies in attracting and retaining qualified technical staff.

(h) Cost Performance.

- 1 Ratios (possible ratios applicable to evaluating manpower utilization are: supervisory to non-supervisory, direct to indirect, employees to volume of work, etc.).
- 2 Cost (dollars) per unit of work, e.g., the average cost of preparing a particular type of purchase order, the average recruitment cost, etc.
- 3 Equipment utilization (idle time to total use time, etc.).
- 4 Equipment maintenance (breakdown time to preventive maintenance time, maintenance and repair hours to total direct labor hours).
- 5 Scrap rate (dollar value of scrap to value of product accepted or volume of scrap to volume of material accepted).
- 6 Adherence to estimated costs.
- 7 Total costs of activity.
- 8 Unit cost and trends.

- 9 Personnel costs and trends.
- 10 Material costs and trends.
- 11 Overhead costs and trends.
- 12 Examples of alertness to potential economies.
- 13 Performance versus cost improvement goals.
- 14 Examples of cost avoidance measures.
- 15 Relationship of overhead and support structures to other staff.
- 16 Effectiveness and costs of maintenance and other support functions.

(2) Judgement Measures.

- (a) Where output measures are not suitable, judgement measures should be stated. This type of measure expresses some judgement about the adequacy of methods or techniques utilized by a contractor. For example, the existence of an acceptable system documenting use of classified material or existence of acceptable manufacturing procedures. The judgement will often be based on professional standards of competence which are applicable to an activity.
- (b) The use of professional standards of competence refers to the application of procedures and practices to activities performed by the contractor which are well accepted by professional persons engaged in similar activities and which are fundamental to the performance of an activity at an acceptable level. For instance, an acceptable wage and salary administration program may require job analysis and job descriptions, a suitable job evaluation plan, a method for determining the dollar value of a job, etc. For each of these parts some form of professional "standard(s)" exist.
- (1) For example: in the evaluation of R&D implementation, a generally accepted standard is that the objectives, milestones and expected end results of the R&D effort should be documented. Using this criterion as a point of

OR 13XX.1
7-30-79

III-7

reference, the evaluator might seek to determine whether each R&D project has a written plan stating objectives in terms of final product with intermediate, time-phased milestones for partial accomplishments.

- (2) Another example: evaluation of a contractor's control system should include determining whether it operates in such a way as to bring to management's attention early warning of any departure from standards. Using this as a point of reference, the evaluator would look for examples of deficiencies to determine such information as when it occurred, when it was discovered, when it was reported, and the correlation between the lapse of time from occurrence to reporting and the loss of time in completing a certain activity.

- (c) The following are examples of how to use performance measures to evaluate the extent to which an activity is achieving its defined objective:

ACTIVITY	OBJECTIVE	PERFORMANCE MEASURE
A. Receipt, storage and distribution of property	1. To assure prompt and efficient delivery of property to using organization when needed.	a. Compliance with applicable DOE requirements.
		b. Average length of time preceding release of material from Receiving.
		c. Average length of time required to deliver property from storage to user.
		d. Existence of adequate records showing quantity, location, status, value, receipt and issuance of material and equipment.

III-8

OR 13XX.1
7-30-79

ACTIVITY	OBJECTIVE	PERFORMANCE MEASURE
8. Quality Control Operation	2. To achieve the objective(s) of the activity in an economic manner.	a. Labor cost per line item received. b. Labor cost per dollar worth the property received. c. Number of months' investment in stores. d. Warehouse direct labor cost per dollar value of stores issues.
	1. To identify and control material from raw material to final product.	a. Existence of sufficient identification of material in every form and configuration. b. Existence of adequate physical custody and control of material in storage and during movement. c. Existence of adequate physical segregation of nonconforming material. d. Timely evaluation and disposition of nonconforming material.
	2. To prevent excessive defectiveness or product variability by controlling manufacturing processes.	a. Existence and adequacy of manufacturing procedures and instructions. b. Adherence to procedures. c. Existence of adequate process capabilities for fabricating required product.

OR 13XX.1 1981 00
7-30-79 07-05-7

III-9

ACTIVITY

OBJECTIVE

PERFORMANCE MEASURE

C. Uranium
Enrichment
Operations

3. To achieve a high degree of conformance between product characteristics and design requirements.

- a. Existence of inspection and testing practices consistent with the complexity of the product and material involved.
- b. Extent of conformance of sample material to specifications.
- c. Existence of test and inspection data suitable for use in statistical quality control.

1. To efficiently produce a maximum of enriched uranium consistent with power availability funding levels, and DOE direction.

- a. Evaluate reasonableness of contractor established goals, schedules, and cost estimates.
- b. Compare actual accomplishments with goals/schedules as originally established, with approved modifications on following areas:

- (1) Enriched uranium-separative work production, cascade power usage, power utilization index, cascade on-stream efficiency, and unit cost of separative work.
- (2) Uranium Hexafluoride - UF₆ production and unit cost of conversion.
- (3) Uranium Tetrafluoride - UF₄ production unit cost of conversion.

III-10

OR 13XX.1
7-30-79 ET-92-1

ACTIVITY	OBJECTIVE	PERFORMANCE MEASURE
1. Develop a list of activities to be performed by the contractor during the contract period.	1. The contractor shall develop a list of activities to be performed by the contractor during the contract period.	(4) Barrier Material- quality of barrier, production rate, unit cost and yield.
2. Develop a list of activities to be performed by the contractor during the contract period.	2. The contractor shall develop a list of activities to be performed by the contractor during the contract period.	c. Evaluate the degree of efficiency on utiliza- tion of people, material, and procured services.
3. Develop a list of activities to be performed by the contractor during the contract period.	3. The contractor shall develop a list of activities to be performed by the contractor during the contract period.	d. Evaluate coordination with other DOE con- tractors, especially with the other gaseous diffusion plants.
4. Develop a list of activities to be performed by the contractor during the contract period.	4. The contractor shall develop a list of activities to be performed by the contractor during the contract period.	e. Evaluate the effective- ness of the follow-up system on correcting deficiencies.
(d) One final word of caution deserves to be made: before engaging in extensive effort to create function and activity definitions, objectives and criteria, the evaluator should thoroughly familiarize himself with existing contractor management system. Such in-place systems will be used whenever they provide the essentials needed for DOE management of the contract. When such systems are not deemed adequate for this purpose, then criteria - output and judgemental measures - will be developed, and reviewed in conjunction with the contractor, allowing for his inputs, rather than developing detailed procedures or methods of accomplishment which are imposed upon the contractor.	(d) One final word of caution deserves to be made: before engaging in extensive effort to create function and activity definitions, objectives and criteria, the evaluator should thoroughly familiarize himself with existing contractor management system. Such in-place systems will be used whenever they provide the essentials needed for DOE management of the contract. When such systems are not deemed adequate for this purpose, then criteria - output and judgemental measures - will be developed, and reviewed in conjunction with the contractor, allowing for his inputs, rather than developing detailed procedures or methods of accomplishment which are imposed upon the contractor.	(d) One final word of caution deserves to be made: before engaging in extensive effort to create function and activity definitions, objectives and criteria, the evaluator should thoroughly familiarize himself with existing contractor management system. Such in-place systems will be used whenever they provide the essentials needed for DOE management of the contract. When such systems are not deemed adequate for this purpose, then criteria - output and judgemental measures - will be developed, and reviewed in conjunction with the contractor, allowing for his inputs, rather than developing detailed procedures or methods of accomplishment which are imposed upon the contractor.

OR 13XX.1
7-30-79

IV-1

CHAPTER IV
CRITIQUE OF APPRAISAL REPORTS

1. INTRODUCTION.

- a. Is the purpose and scope of the appraisal clearly stated?
- b. Is the period covered by the appraisal stated?
- c. Are DOE and DRO Directives, and other references applicable to the appraisal, cited in the introduction?

2. SUMMARY AND CONCLUSIONS.

- a. Is one of the following adjective ratings stated in this section of the report: poor, marginal, satisfactory, excellent or superior?
- b. Is there a brief statement as to the effectiveness and efficiency with which each programmatic and administrative objective was met?
- c. Does this section of the report show impact on resources (dollar, manpower, etc.) or program accomplishment for each major problem encountered?
- d. Are significant accomplishments set out and recognition given for resolving major problems?
- e. Does the information associated with questions b through d above adequately support the adjective rating?

3. RECOMMENDATIONS.

- a. Are recommendations mandatory based on the adjective rating given (a rating less than excellent requires recommendations)?
- b. Are recommendations clearly and concisely stated? Are they appropriate? If implemented, will they correct deficiency?
- c. Are prior recommendations that have not been closed discussed as to why the contractor has not initiated appropriate corrective action?
- d. Does each recommendation flow logically from the findings developed and conclusions reached? Do information and data in the commentary adequately support the recommendations?

IV-2

OR 13XX.1
7-30-794. COMMENTARY.

- a. Does information in this section fully and clearly support conclusions and recommendations?
- b. Is each performance criterion addressed adequately?
- c. Does this section of the report add credibility to the appraisal rating? Does it provide an adequate synopsis of the contractor's performance?

5. EVALUATION. If your answers to all these questions are yes, the report adequately meets the requirements of the ORO Appraisal Policy.

CHAPTER V DEFINITIONS

1. EVALUATION. The evaluation process consists of making quantifiable comparison of actual versus planned results and determining which functions and activities of contractor management have contributed to or deterred achievement of the goals defined in the contract. The annual evaluation is predicated on collecting and utilizing all available information about a contractor's performance during the course of a year as a result of the technical and functional or administrative reviews, evaluations, audits, and inspections made by various DOE organizations. The organizational units responsible for annual performance evaluation reports determine the adequacy of such available information and initiate such additional review as may be deemed appropriate.
2. TOTAL MANAGEMENT PERFORMANCE. The term is intended to be all-inclusive of the activities and functions being carried on within the contractor organization which have a direct or indirect bearing on the results accomplished pursuant to the DOE contract. Some examples of management activities are: planning, organizing, staffing, directing, controlling, problem analysis, decision-making, and communicating. Some examples of management functions are: finance, engineering, research and development, manufacturing, production control, procurement, and construction. In practice, every management function is involved in almost all of the management activities. For example, the research and development function does planning, organizing, and staffing. It is not intended to imply that annual total management performance evaluation of a contractor requires assessment of every function and activity in the contractor operation. On the other hand, it is important to be sensitive to the impact which each may have upon total performance. The end result of the annual performance evaluation is to produce an across-the-board assessment rather than focusing on isolated performance deficiencies throughout the year.
3. EFFECTIVENESS, EFFICIENCY AND ECONOMY.
 - a. The term "effectiveness" is intended to describe the achievement of objectives. The terms "efficiency and economy" are intended to describe conditions under which responsibilities are being fulfilled with due regard for the conservation of time and resources (material and personnel). Different standards or criteria would be used in evaluating "effectiveness" as distinguished from "efficiency and economy" of the contractor's operation. For example, the contractor might

be making the most "efficient" use of his research or engineering personnel with minimal diversion for the performance of administrative details, but the end product of the research or engineering effort is not likely to accomplish the programmatic goal described in the contract within the prescribed budgetary and schedular limitations.

- b. The key to determining "effectiveness" lies in arriving at concurrence (the evaluator, the program office, and the contractor) as to goals, i.e., the expected results of the contractual effort - technical, financial, and time-wise. Then each function or activity of management should be analyzed in terms of direct contribution to the achievement of those goals.
- c. The keys or criteria for determining "efficiency and economy" may be considered somewhat easier to define and apply because they are often characterized as being more mechanical or visible, e.g.: duplication of effort, overstaffing, excess inventories, forms whose data are not being used, etc.
4. **SIGNIFICANT RESULTS.** The term is used in conjunction with the content of evaluation reports submitted to higher authority. The determination as to whether or not certain results of evaluation shall be deemed "significant" can be aided by viewing results through the eyes of a National Program Administrator. One might ask whether the reader would place a higher priority on learning of a particular result compared to other information concerning a contractor's performance. Another measure for determining significance would be whether a particular piece of information reflects a basic overall condition so deficient as to preclude the contractor from achieving contractually defined goals. In other words, an event which - in PERT terminology - would constitute a part of a "critical path."
5. **TECHNICAL REPRESENTATIVE (TR).** Technical Representative (TR) means the DOE employee assigned responsibility for overall technical monitoring of a program or project. This employee may be the Program/Project Manager, another employee in the program division, or an employee in the operations office. He monitors the technical work performed under the contract, evaluates the contractor's performance, provides the contractor and the Contracting Officer with technical guidance, reports on project status to DOE program and project management, and initiates and recommends corrective action when necessary.

6. SUBJECTIVE AND OBJECTIVE MEASUREMENTS.

- a. Subjective assessment is required where a given performance situation cannot be measured with the precision of mathematical, mechanical or similar objective measurement methods. In such cases, evaluation of contractor performance must be made on the basis of a subjective analysis that reflects the evaluator's opinions and impressions as to the level of performance achieved by the contractor. The key to effective subjective assessments is that they should be as informed as possible; personal bias or intuitive feeling are not the hallmarks of subjective appraisal.
- b. Objective assessments, on the other hand, suggest that the parameters for measuring performance are well-defined, that they are physically or mathematically measurable, and that any two parties of like expertise reviewing a given work effort would be able to determine the extent of performance achievement in some reasonably equal and provable manner.
- c. For example, evaluation criteria listed under the performance heading of "Supervision" might include the following:
 - (1) Efficient use of personnel.
 - (2) Ability to control personnel.
 - (3) Adequately planned work.
 - (4) Provision of adequate tools and equipment to employees.

Each of these criteria would result in an assessment based largely on the informed judgement of evaluators or monitors assigned to appraise contractor performance in the area of "Supervision."

- d. On the other hand, if the evaluation were to be made on the basis of a contractor delivering an item or end-result in response to a given task, the following would be measurable outputs: completion of a test on time with the number of personnel anticipated, or test results within the quality requirements specified for the task. Note that with well-defined, measurable outputs, no significant "judgement" (as distinguished from knowledge, experience or skill) on the part of an evaluator or monitor is required as to how a contractor did the job. The only consideration is whether the job was done in the time required, to a specified level of quality.

e. In summary:

- (1) Subjectivity is akin to estimating or appraising contractor performance as a function of informed opinions, impressions, and observations.
- (2) Objectivity is akin to measuring contractor performance, in some reasonably provable manner, using finite methods of calculation to determine results.

7. QUANTITATIVE MEASUREMENTS OR TECHNIQUES.

- B. Quantitative measurements or techniques are not substitutes for judgement, nor do they eliminate the need to evaluate the types of performance conditions mentioned above. They do, however, serve to quantify the facts considered in arriving at required judgemental assessments. The greater the ability to identify and quantify the facts considered in arriving at judgements, the more credible these judgements are likely to be, as well as the documentation prepared to support them. The use of quantitative measurements or techniques is encouraged for this reason, and a good starting point is to review the selected criteria for performance evaluation in order to determine the extent to which any of them may be subject to quantitative measurement.
- B. While quantitative measurements or techniques can be of considerable help in the evaluation process, they should not be force-fitted as a convenience. The performance situation and applicable evaluation criteria must be such that a quantitative approach is feasible and likely to result in a realistic portrayal of contractor performance. Furthermore, sufficient information or experience must be available to permit the development of standards for the use of quantitative measurements or techniques. In other words, a quantitative measurement is meaningful only if it can be equated to a given performance level through the use of realistic standards. In this regard, any standard should reflect not only the nature and difficulty of the work involved, but also the level of contractor experience in performing like or similar work. This is particularly true in service-type contracts where the effect of learning over time should provide the contractor with an increasingly effective ability to achieve higher performance levels.
- B. Quantitative performance measurement guidelines can be developed from industrial or historical standards to serve as a basis for the monitoring of highly repetitive functions or services. There are several "yardsticks" of performance

OR 13XX.1
7-30-79

V-5

already available to measure quality, time, and cost for many functions that may be performed under contracts. The utilization of these "yardsticks" will simplify the assessment and reporting processes and provide the use of criteria that permit an objective evaluation of contractor performance. Simple examples of performance measurement guides or "yardsticks" are the average number of person-hours for cleaning 1,000 square feet of floor area, the average time per page for technical writing in a specific area, or the average time per print in film processing.

8. **QUALITY REVIEW MEASUREMENTS.** In those situations where quantitative measurements or techniques are inappropriate or impractical, a "quality review" approach should be considered. This approach requires the development of an evaluation questionnaire that permits overall "yes" or "no" answers. The higher the proportion of "yes" answers, the stronger the indication of effective performance. The answers obtained, when augmented by an evaluation of existing conditions, can provide a basis for assessing contractor performance. A simple device, no doubt, but one that may be fair and reasonable where performance tasks are straightforward and do not require a more detailed evaluation or rating system. Some weighting system should be devised for the major quality indicators.

DOE/PR-0007/3

Procurement Guide (PG 9-3.4)

Types of Contracts and Agreements Guide

(Part II)



Cost-Plus-Award-Fee Contracting

April 1978

U.S. DEPARTMENT OF ENERGY
Directorate of Procurement & Contracts Management
Washington, D.C. 20545

FOREWORD

The Department of Energy publication titled Types of Contracts and Agreements Guide (PG 9-3.4) consists of two parts:

- Part I - Types of Contracts and Agreements, and
- Part II - Cost-Plus-Award-Fee Contracting.

Each part of the Guide serves a purpose: Part I provides a comprehensive introduction to a wide variety of contract types and agreements; Part II provides a detailed examination and explanation of fundamentals, tools and techniques for successful cost-plus-award-fee (CPAF) contracting. Neither part is to be considered directive in nature, except where the activities, actions or determinations portrayed are otherwise covered by statute or regulation.

In both format and content, this Part II is designed to be of service and assistance to those persons assigned responsibilities for the development, preparation, negotiation, award and administration of CPAF contracts. Its scope includes activities and actions across the entire acquisition process, from early program and procurement planning through the day-to-day functions of technical evaluation and assessment under a contract.

Where it has been determined appropriate for use, the Department of Energy considers that the award fee contract will foster an effective business arrangement and enhance performance. As this Part II relates, the CPAF arrangement constitutes an incentive contract. Unlike any other, it acts to motivate continuously excellent performance in areas identified under the contract. Where prescribed evaluation and assessment indicate performance achievement, then success will be rewarded.

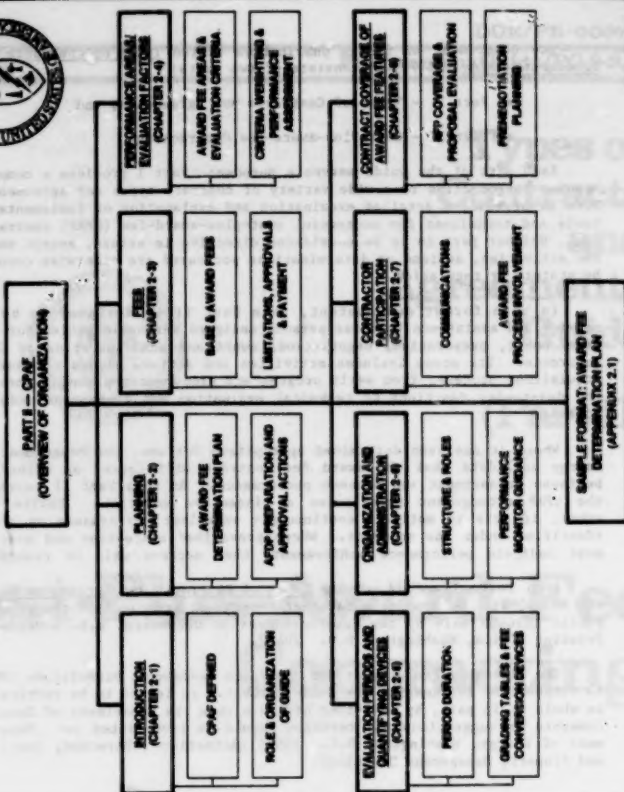
Both Parts I and II of the Types of Contracts and Agreements Guide (PG 9-3.4) will be available to other Government agencies and the general public through sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

The Director, Procurement and Contracts Management Directorate (PR), is responsible for keeping the Guide current. It is not to be rewritten, in whole or in part, by any other office within the Department of Energy. Comments or suggestions for revision should be transmitted to: Department of Energy, Washington, D.C. 20545 (Attention: Director, Contract and Property Management Division).

M. J. Tashjian
M. J. Tashjian, Director
Procurement and Contracts
Management Directorate

March 1978

TYPES OF CONTRACTS AND AGREEMENTS GUIDE (PG 9-3-4)
Part II - Cost-Plus-Award-Fee Contracting



MARCH 1984

TYPES OF CONTRACTS AND AGREEMENTS GUIDEPART II - COST-PLUS-AWARD-FEE CONTRACTINGTable of Contents

	<u>Page</u>
CHAPTER 2-1 INTRODUCTION	
A. Cost-Plus-Award-Fee Contract: Definition and Use.	2-1:1
B. Role of This Part II	2-1:3
C. Organization of This Part II	2-1:4
CHAPTER 2-2 PLANNING	
A. Introduction	2-2:1
B. Award Fee Determination Plan (AFDP) Described.	2-2:1
C. Preparation and Approval of AFDP	2-2:3
D. Comments on Attachment 2-2.1 Activities.	2-2:5
E. Scheduling Actions	2-2:8
Attachment 2-2.1 - Sample Format: Actions and Schedules for Establishing Award Fee Determination Plan.	2-2:9
CHAPTER 2-3 FEES	
A. Introduction	2-3:1
B. Base Fee	2-3:1
C. Award Fee.	2-3:2
D. Fee Limitations and Approvals.	2-3:3
E. Payment of Fees.	2-3:5
CHAPTER 2-4 PERFORMANCE AREAS AND EVALUATION FACTORS	
A. Introduction	2-4:1
B. Performance Areas.	2-4:1
C. Evaluation Criteria.	2-4:4
D. Bases for Measuring Performance.	2-4:5
E. Weighting Areas and Criteria	2-4:11

	<u>Page</u>
CHAPTER 2-5 EVALUATION PERIODS AND QUANTIFYING DEVICES	
A. Introduction	2-5:1
B. Evaluation Periods	2-5:1
C. Distribution of Award Fee to Evaluation Periods	2-5:2
D. Grading Tables	2-5:3
E. Award Fee Conversion Charts	2-5:4
F. Use of Quantifying Devices	2-5:5
Attachment 2-5.1 - Grading Table Illustration	2-5:11
Attachment 2-5.2 - Award Fee Conversion Chart Illustration	2-5:12
CHAPTER 2-6 ORGANIZATION AND ADMINISTRATION	
A. Introduction	2-6:1
B. Organizational Structure	2-6:2
C. Method for Determining Award Fee Earned	2-6:7
D. Method for Changing AFDP coverage	2-6:7
E. Instructions and Guidance for Performance Monitors (PMs)	2-6:8
F. Documentation and Reports	2-6:10
Attachment 2-6.1-Guidelines Concerning Actions in Determining Award Fees.	2-6:15
CHAPTER 2-7 CONTRACTOR PARTICIPATION	
A. Introduction	2-7:1
B. Importance of Communications	2-7:1
C. Preparation of AFDP.	2-7:1
D. Award Fee Determination	2-7:2
E. Revision of AFDP	2-7:4
CHAPTER 2-8 CONTRACT COVERAGE OF AWARD FEE FEATURES	
A. Introduction	2-8:1

	<u>Page</u>
CHAPTER 2-8 CONTRACT COVERAGE OF AWARD FEE FEATURES (Cont'd.)	
B. Request for Proposals Coverage	2-8:1
C. Award Fee Contract Coverage.	2-8:3
D. Evaluating Proposals	2-8:4
E. Negotiating the Contract	2-8:8
APPENDIX 2.1 SAMPLE FORMAT: AWARD FEE DETERMINATION PLAN .	2.1:1
APPENDIX 2.2 LIST OF PART II ACRONYMS	2.2:1

FIGURES

1. The Cost-Plus-Award-Fee Contract	2-1:0
2. The Award Fee Determination Plan	2-2:0
3. Establishing An Award Fee Determination Plan .	2-2:0-1
4. CPAF Contract Fees	2-3:0
5. Determining A Performance Measurement Framework	2-4:0
6. Selecting Performance Areas to be Incentivized	2-4:2
7. Statement of Work Preparation.	2-4:6
8. Creating Performance Standards for Evaluation and Assessment	2-4:10
9. Performance Evaluation Periods and Award Fee Distribution	2-5:0
10. CPAF Organizational Pyramid	2-6:0
11. Organizational Structure - Tailoring is the Key.	2-6:0-1
12. Contractor Participation	2-7:0
13. Shaping An Environment for Communication and Participation.	2-7:0-1
14. The Procurement Process and CPAF Contracting (I).	2-8:0
15. The Procurement Process and CPAF Contracting (II)	2-8:0-1

2-1:0
CHAPTER 2-1 INTRODUCTION

THE COST-PLUS-AWARD-FEE CONTRACT

- **WHAT IS A CPAF CONTRACT?**

... A COST-REIMBURSEMENT TYPE CONTRACT WITH SPECIAL FEE PROVISIONS.

- **WHAT ARE ITS SPECIAL FEE PROVISIONS?**

... ONE FOR ESTABLISHING A BASE FEE; THE OTHER FOR ESTABLISHING AN AWARD FEE.

- **WHAT IS A BASE FEE?**

... A FIXED AMOUNT WHICH DOES NOT VARY WITH PERFORMANCE AND WHICH COULD BE ZERO.

- **WHAT IS AN AWARD FEE?**

... A VARIABLE AMOUNT, WITHIN LIMITS, WHICH IS IN ADDITION TO THE BASE FEE.

- **WHAT IS THE PRIMARY INCENTIVE FEATURE OF A CPAF ARRANGEMENT?**

... SUCCESS IS REWARDED BECAUSE IT IS EARNED, AS DETERMINED BY EVALUATION AND MEASUREMENT UNDER THE CONTRACT.

Figure 1

2-1:1

TYPES OF CONTRACTS AND AGREEMENTS GUIDE

(PG 9-3.4)

PART II - COST-PLUS-AWARD-FEE CONTRACTINGCHAPTER 2-1 INTRODUCTIONA. COST-PLUS-AWARD-FEE CONTRACT: DEFINITION AND USE1. GENERAL

a. The cost-plus-award-fee (CPAF) contract is an incentive contract. Unlike cost-plus-incentive-fee (CPIF) or fixed-price incentive (FPI) contracts, the CPAF arrangement does not include predetermined targets and automatic fee adjustment formulas. The CPAF incentive, unlike any other, motivates a contractor to strive for continuously excellent performance in areas of contractor effort or activity. Success is rewarded because it is earned.

b. The number of arrangements that could serve as a basis for any award fee contract is virtually limitless, because the award fee environment thrives on innovation. It encourages flexible performance arrangements, recognizes the continuing opportunity to reshape them throughout the life of a contract, and requires a wide variety of business and technical management skills to make them work. It has the inherent capacity to grow, expand and develop. In a word, it is viable.

c. Not every contract is sought because it holds the promise of immediate profit. While profit is undeniably a strong and enduring motivation of business enterprise, it is not the only one. In many procurement situations, be they competitive or noncompetitive, prospective sources or performing contractors are motivated to become successful offerors and perform with uncommon diligence for reasons that minimize or transcend the importance of immediate financial return. These reasons, and there are many of them, are referred to collectively as extracontractual incentives. They are among the most pervasive of influences in Government contracting and certainly exist in the award fee environment.

d. Extracontractual incentives for the pursuit of Government contracts, or for the continuance of those already in hand, include the following: high research, development and technological standards; organizational growth and the development of personnel and technical capabilities; potentially high levels of sales; coverage of fixed overhead costs; and the potential for long-term growth. The important point is that some of the most telling incentives under Government contracts are not those that are written into them.

e. CPAF contracts have been employed by the Federal procurement process since the early 1960's. As with all forms of contracting,

2-1A1

their use has resulted in some misapplications as well as outstanding successes. In considering the award fee arrangement, this guide recognizes that the CPAF contract is a mechanism for conveying and dealing with performance requirements under contract. As with any other type of contract, it is a useful device and with proper application can provide the basis for successful performance. Of itself, as is true of any specific contract type, it possesses no indigenous qualities that assure success. If its use is determined appropriate in satisfying or meeting a requirement or need, then it should be employed; if not, then some other business and pricing arrangement must be sought.

2. DEFINITION

a. A CPAF contract is a cost-reimbursement type contract with special fee provisions. The fee established in a CPAF contract consists of two parts: (i) a fixed amount (called the base fee) which does not vary with performance and which could be zero, and (ii) an award amount (called the award fee pool) which, in addition to the fixed amount, is determined to be sufficient to encourage the attainment of excellent contract performance in specified areas.

b. When determined suitable for use, the award fee contract mirrors a combination of at least three Government contracting objectives: (i) to provide for the reimbursement of allowable, (allocable and reasonable) costs, (ii) to fix a dollar amount beyond the initial estimate of costs that represents the wages of risk, and (iii) to motivate performance continuously throughout the life of a contract, where success breeds additional income, if earned. In short, the first two of these objectives are the essence of a cost-plus-a-fixed-fee (CPFF) contract. The third is the essence of a CPAF contract.

c. In a CPFF contract, assuming no changes are issued during performance, final cost may vary with the initial cost estimate, but the fixed fee remains unchanged. The same applies in a CPAF contract to the extent that the base fee represents, in part, what the fixed fee does in a CPFF contract, except where the base fee is zero.

d. Under a CPAF arrangement, the base fee is designed to compensate the contractor for factors such as risk, investment and the nature of the work to be performed, but in an amount commensurate with the level or quality of performance categorized as minimum acceptable. The award fee pool represents the additional amount available to reward the contractor for performance above minimum acceptable levels in selected performance areas. The total pool may be allocated equally among the various evaluation periods or, where appropriate, larger portions may be assigned to evaluation periods in which significant criteria will be most susceptible to meaningful evaluation.

3. USE

The CPAF contract is suitable for use when the following conditions, in combination, are present:

2-1:3

a. A cost-reimbursement type contract is found necessary. (Almost without exception, the use of a cost-reimbursement type contract is associated with performance requirements that are difficult to shape and articulate in detail. Uncertainties grounded in unknowns provide little assurance that a higher-risk contract type would favor either the Government or the contractor.)

b. The work to be performed is such that specific quantitative or objective measurement is not feasible, and it extends over a sufficient period of time for the award fee features to be used effectively. (CPAF situations usually involve myriad tasks and activities within a broad range or scope of work extending over a considerable period of time -- months in some cases, years in others. These situations rarely are amenable to the precise definition of all that they require -- from dozens to thousands of activities that stretch across a multiplicity of major performance areas.)

c. Achievement of performance objectives will be enhanced to the extent that a contract can motivate a performer effectively toward exceptional performance on the one hand, yet the contract permits the Government to evaluate actual performance levels and the conditions under which they were achieved on the other. (On both counts, the CPAF contract is appropriate for use. The award fee portion of the arrangement, coupled with an ongoing evaluation and assessment process, provides the contractor with an incentive to excel and the Government with the means for determining how well the job has been done.)

d. Any additional administrative effort and cost required to monitor and evaluate performance, as well as added fees available for award, are commensurate and justified by the expected benefits. (A reasonable calculation of the costs of employing any type of contract -- including time, person-hours, and administration -- represents good business practice. What otherwise appears to be an appropriate arrangement may, in light of this kind of calculation, be determined as too costly relative to expected benefits.)

B. ROLE OF THIS PART II

1. Simply put, the role of this Part II is to be helpful in providing fundamentals, tools and techniques for successful CPAF contracting. In both format and content, it is designed to be of service and assistance to those persons assigned responsibilities for the development, preparation, negotiation, award and administration of CPAF contracts.

2. It is not directive in nature, except where the activities, actions or determinations it portrays are otherwise covered by statute or regulation.

3. Some of the terminology and examples used throughout this Part II may not be familiar to all of its users. The adaptation and tailoring of

2-183

its contents to local or organizational practice will increase its utility for those involved in CPAF contracting.

C. ORGANIZATION OF THIS PART II

1. This part is divided into eight chapters and two appendices. Each chapter, representing a major heading, is further separated into sections that deal with discrete elements of the award fee environment.

2. The pagination scheme of this Part II provides the reader with an immediate identification of several elements.

a. Each page number is indicated at the top. This page, for instance, is numbered 2-1:4. The first numeral indicates this Part II, the second indicates Chapter 1, and the third indicates page 4 within the sequence of pages comprising the chapter.

b. At the bottom of each chapter's pages, except where figures appear, the numeric-alpha designator represents an immediate reference to substantive material content, through the paragraph level, that concludes each page. At the bottom of this page, for instance, is the designator 2-1C6. The first numeral indicates this Part II, the second indicates Chapter 1, the letter indicates the section of the chapter, and the third numeral indicates the last paragraph of the section on this page.

3. Appendix 2.1 contains a sample format for an Award Fee Determination Plan.

4. Appendix 2.2 is an alphabetical list of all acronyms used throughout the Part II chapters and Appendix 2.1.

5. Figures are used throughout this part to highlight some of the most important features and characteristics of the award fee contract, as well as some of the elements associated with its utilization.

6. Before using this Part II, examine its table of contents thoroughly. Therein is the specification for what it covers.

THE AWARD FEE DETERMINATION PLAN

(What is An Award Fee Determination Plan?)

AN AFDP SERVES A TWO FOLD PURPOSE:

CPAF/AFDP

Contract No. _____

Contractor _____

Contents _____

Approved by: _____

Date: _____

- IT ARTICULATES IN ONE DOCUMENT THE AWARD FEE DETERMINATION PROCESS AND THE PLAN AND MEANS FOR MONITORING, ASSESSING AND EVALUATING CONTRACTOR PERFORMANCE.
- IT SERVES AS A CHARTER FOR THE ORGANIZATIONAL STRUCTURE AND RESPONSIBILITIES REQUIRED TO ADMINISTER THE AWARD FEE PROVISIONS OF THE CONTRACT.

Figure 2

2-20-1

ESTABLISHING AN AWARD FEE DETERMINATION PLAN *(The Major Building Blocks)*

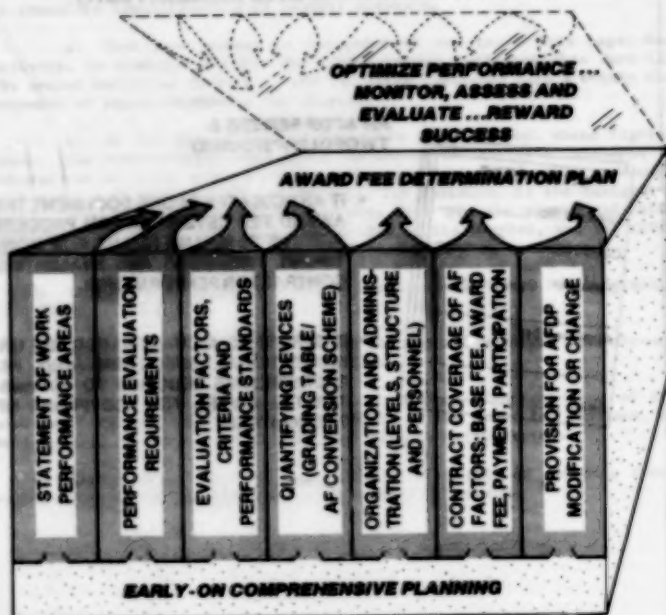


Figure 3

CHAPTER 2-2 PLANNING

A. INTRODUCTION

1. Comprehensive procurement planning should begin in the early stages of program definition when a requirement is established that will be satisfied under contract. Early consideration of procurement requirements and discussions among program, legal, contracting and other personnel can go far toward initiating timely actions leading to the successful development and administration of a contract.

2. This chapter provides guidance for use in the early planning of activities that are peculiar to CPAF contracting. These activities include:

a. The development of proposed contract clauses that specify award fee features.

b. The development of provisions for a Request for Proposals (RFP) that identify award fee features and how they should be addressed in submitted offers.

c. The evaluation of proposals in terms of their responsiveness to award fee features included in an RFP.

d. The negotiation of coordinated contract terms covering award fee features.

e. The development of a comprehensive award fee plan, including the organizational structure needed for monitoring, assessing and evaluating contractor performance and determining the award fee earned.

3. The end-product of the activities covered by this chapter should be a comprehensive Award Fee Determination Plan (AFDP). This chapter starts with a description of the plan and continues with information on how it should be developed and approved.

B. AWARD FEE DETERMINATION PLAN (AFDP) DESCRIBED**1. PURPOSE OF PLAN**

a. The purpose of the AFDP is to articulate in one document the plan and means for monitoring, assessing and evaluating contractor performance as a basis for determining any award fee earned.

b. The plan also serves as a charter for the organizational structure required to administer the award fee provisions of a contract.

2. ELEMENTS OF PLAN

A complete APDP should include the following elements, each of which is addressed in the identified sections of this Part II:

<u>Elements</u>	<u>Sections</u>
• What the base fee amount is	2-3B
• What the total award fee pool is	2-3C
• What performance areas will be evaluated	2-4B
• What criteria will be used in evaluation	2-4C
• How performance will be measured	2-4D
• What relative weights will be assigned to performance areas and the evaluation criteria	2-4E
• When the award fee will be determined and for what evaluation period	2-5B
• How much of the total award fee pool will be available for each evaluation period	2-5C
• How performance will be graded	2-5D
• Who will determine the award fee earned	2-6B
• What organizational structure will be used to evaluate and grade performance	2-6B
• What method will be followed (and the timing involved) in evaluating performance and determining the award fee to be paid	2-6C
• What method will be followed (and the timing involved) in changing the coverage in the plan, if appropriate	2-6D

2-2:3

ElementsSections

- How the contractor will participate in the award fee determination process
- How the contractor will participate in changing the coverage in the plan, if appropriate

2-7D

2-7E

3. SAMPLE FORMAT OF PLAN

a. Although each AFDP must be tailored to fit the requirements and circumstances of the contract involved and the organizational structure of the procuring activity, a sample or specimen format will help in understanding what a plan can look like and how all of its elements fit together. Appendix 2.1 is provided for this purpose.

b. Appendix 2.1 does not provide specific data or examples of what should constitute the substance of any plan. Such data or examples, of course, have to result from the exacting requirements of any given contract. Many examples are provided throughout this Part II, however, that deal with the elements of the AFDP identified in 2-2B2.

c. Some Appendix 2.1 headings, subheadings, and so forth, may not fit a particular situation, nor do its parts include features that will be applicable to many specific contractual needs. The information and format presented in Appendix 2.1, as well as those provided in other sections of this Part II, should be tailored to fit the requirements and demands of the situation or contract at hand.

C. PREPARATION AND APPROVAL OF AFDP

1. RESPONSIBILITY FOR DEVELOPING AND APPROVING THE PLAN

a. AFDPs involve many areas of management (e.g., program, legal, financial and contracting), and the actions required for their development should be performed by a team of qualified individuals representing these areas. It is important that these team members be selected as soon as possible after the decision is made to use a CPAF contract, and that they be informed of their respective responsibilities in contributing to the development of the plan.

b. Likewise, it is important to undertake the early selection of the prospective Fee Determination Official (FDO), the Performance Evaluation Board (PEB) Chairman and members, and to establish their responsibilities for taking on or coordinating the various actions required

2-2C1

to develop the plan. This has the advantage of involving the same people in early planning who will be responsible for carrying out the plan across the life of the contract.

c. Since the AFDP will serve as a charter for the organizational structure required to administer the award fee provisions of the contract, the plan should be approved by the head of the procuring activity.

2. OBJECTIVES IN DEVELOPING PLAN

The following objectives should be kept in mind when developing the AFDP:

a. The number and kinds of performance areas, performance goals, performance evaluation criteria and other evaluation factors will differ widely from one contract to another. When determining these award fee factors, therefore, a plan should be crafted that will motivate the contractor to optimize (make the best use of) its resources in a continuously positive way to improve performance under a contract.

b. The plan selected should result in an equitable and timely process for performance review, assessment, administration and alteration. A CPAF contract cannot function as intended unless the contractor is confident that the award fee process of evaluation and determination is fair and likely to result in award fee earnings commensurate with achieved performance levels. An award fee determination is unlikely to have a positive influence on future performance levels if, for instance, it is delayed until a point in time well into the next evaluation period.

c. The plan should communicate clearly the requirements for evaluation and the means by which performance levels will be measured. The plan is unlikely to have a positive influence on performance levels if the contractor is uncertain about or does not understand the performance and evaluation bases supporting it. The plan must be understood completely by all personnel in the procuring activity who are involved in administering the award fee process.

d. To assure positive motivation, the highest performance levels anticipated by the plan should be attainable. Unachievable levels of performance are an incentive to avoid them, since by definition they cannot be met. The plan also should anticipate an evaluation of both performance levels and the conditions under which these levels were achieved. Such a plan permits distinctions to be made, for example, among "average" performance levels achieved under extremely difficult circumstances, "excellent" performance levels achieved after considerable direction from procuring activity personnel, and "excellent" performance levels achieved independently with little or no assistance from procuring activity personnel.

2-2:5

e. The plan should be as simple as feasible. That is, it should be practicable, suitable, probable of success, or, in a word -- workable. The simpler the evaluation requirements and method for evaluating ongoing performance and determining the award fee, the more effective the plan is likely to be. The plan should be tailored to cover key problem or performance improvement areas of greatest concern or significance to getting the job done. Past performance of similar work under contract can be helpful in identifying what these problem or performance improvement areas may be.

f. The plan should require a minimum effort to administer. The evaluation requirements selected and the effort needed for assessing and evaluating performance are interrelated. If evaluation requirements cover only performance areas or prescribed activities of greatest importance or concern, the administrative burden will be reduced accordingly. In most cases, careful tailoring can avoid stretching available resources so thin that the award fee provisions cannot be administered effectively. As the contractor is motivated to optimize its resources during performance, so the procuring activity has the same motivation to optimize its resources in the evaluation, assessment and administration of a CPAF contract.

g. The plan should provide for flexibility in unilaterally changing the evaluation and other award fee requirements covered under contract. As work progresses, the problems or performance improvement areas probably will change; better ways may be found to administer the award fee provisions or to motivate the contractor for upcoming performance periods. The plan should provide that such changes can be made unilaterally and without difficulty.

3. ACTIVITIES IN DEVELOPING AFDP

a. Attachment 2-2.1 located at the end of this Chapter 2-2 summarizes the principal actions that should be taken to develop an AFDP. It includes related actions such as drafting RFP and contract provisions covering the award fee features, the evaluation of the award fee features in submitted proposals, and the negotiation of the award fee features to be included in a resultant contract.

b. Attachment 2-2.1 also identifies the Part II sections in which CPAF-related actions are addressed and provides space for assigning responsibility for taking these actions, as well as for their scheduling.

D. COMMENTS ON ATTACHMENT 2-2.1 ACTIVITIES

1. SELECT PROSPECTIVE FDO, PEB CHAIRMAN AND MEMBERS

The prospective FDO and PEB Chairman and members should be selected by the head of the procuring activity and given the tasks of developing the AFDP and coordinating the related activities involved.

2-2D1

2-2:6

2. REVIEW STATEMENT OF WORK AND OTHER PROCUREMENT REQUIREMENTS

The Performance Evaluation Board (PEB) should review proposed contract requirements that will impact the AFDP, such as the statement of work and related standards and specifications, the terms of the contract, and any programmatic or administrative needs that will establish bases for the AFDP.

3. PREPARE PROPOSED PERFORMANCE EVALUATION REQUIREMENTS

The PEB should draft the proposed evaluation requirements using the statement of work and related standards and specifications -- the performance requirements -- as a base. Although all of the performance requirements may not be defined precisely, the anticipated end-results of performance should be determinable. Whenever possible, the performance requirements should be structured or restructured to indicate precisely what is anticipated in the way of results or outcome. For example, and whenever possible, the tasks that evolve from the statement of work should be structured to present finite, short-term output requirements toward which the contractor may work. Evaluation factors can be derived from such short-term requirements.

4. PREPARE PROPOSED ORGANIZATIONAL STRUCTURE AND FUNCTIONS

After the proposed evaluation requirements are established, the PEB should be in a position to determine the organizational structure and overall personnel requirements for administering the award fee provisions.

5. PREPARE PROPOSED METHOD AND SCHEDULES FOR EVALUATING PERFORMANCE AND DETERMINING AWARD FEE EARNED

The method and schedules for evaluating performance and determining the award fee earned should be prepared by the PEB based on the evaluation requirements and the organizational structure addressed in D3 and D4, above.

6. PREPARE PROPOSED METHOD AND SCHEDULES FOR CHANGING PLAN COVERAGE

The PEB should prepare the method for changing or altering what the plan covers, as addressed in 2-2C2g, above.

7. PREPARE PRO FORMA AFDP

After the actions indicated above are completed, the PEB can integrate them into a pro forma (or model) AFDP for use in requesting proposals and negotiating a resultant contract. The pro forma AFDP should be as complete as time and other circumstances permit.

2-217

8. DRAFT PROPOSED CONTRACT PROVISIONS COVERING AWARD FEE FEATURES

The contract negotiator should draft the award fee features to go into the proposed contract, based on the pro forma AFDP or advice from the PEB as appropriate.

9. DRAFT PROPOSED RFP PROVISIONS COVERING AWARD FEE FEATURES

The contract negotiator should draft the award fee features to be covered in the proposed RFP based on the pro forma AFDP and advice from the PEB.

10. ISSUE RFP INCLUDING AWARD FEE FEATURES

The negotiator should see that the issued RFP includes the award fee features provided by the PEB.

11. EVALUATE AWARD FEE FEATURES IN SUBMITTED PROPOSALS

The PEB should consider the award fee features included in submitted proposals and submit appropriate comments and recommendations for use in evaluating each proposal for source selection or other purposes.

12. ESTABLISH PRENEGOTIATION POSITION CONCERNING AWARD FEE FEATURES

The PEB should furnish appropriate recommendations and guidance to the negotiator regarding the award fee features to be covered in the development of a prenegotiation position.

13. UPDATE PRO FORMA AFDP TO REFLECT PRENEGOTIATION POSITION

The PEB should update the pro forma AFDP after coordination with the negotiator.

14. DISCUSS PRO FORMA AFDP WITH PROPOSED CONTRACTOR AND NEGOTIATE PROPOSED CONTRACT TERMS

As requested by the negotiator, the PEB members will assist in negotiating the award fee features of the contract. As indicated in 2-8E, the award fee features of the contract should be negotiated as a total package.

15. APPROVE FORMAL AFDP

After negotiations are completed, the formal AFDP should be finalized and approved (i.e., approval by the head of the procuring activity before the cognizant contracting officer executes the contract). The pro forma AFDP does not need to be so approved.

2-2D15

2-2:8

E. SCHEDULING ACTIONS**1. IMPORTANCE OF TIMELY ACTIONS**

a. Recognition and conformance to timeliness of the evaluation effort is extremely important. Delays usually will compromise the benefits otherwise accruing from timely evaluations and reporting. Unless interim or final evaluation results are transmitted to the contractor in a timely manner, and any associated award fee payments made promptly, the contract probably will not have the desired influence on contractor performance during the follow-on evaluation period.

b. Timeliness is not meaningful, of course, if it is rushed and results from failure to perform an adequate evaluation or from failure to provide the contractor with a reasonable opportunity to respond in its own behalf. Sound administration of award fee features is characterized by a proper balancing between the need for adequate evaluation efforts and supporting documentation on the one hand and timely actions on the other. Generally, this kind of balance reflects a good planning effort prior to award, including development of some form of time schedules or milestones covering each step in the evaluation process.

c. The timeliness of actions involved in changing AFDP coverage also is very important. Proposed changes must be processed expeditiously. If the contractor is not notified within the time required under the contract before the start of the evaluation period for which the changes would be applicable, then the contractor is not bound to implement them until the subsequent evaluation period.

2. PLANNING FOR TIMELY ACTIONS

a. Attachment 2-2.1 reflects the importance of scheduling those actions required to develop an AFDP. Appendix 2.1, Attachments D-1 and E-1, also covers the matter of scheduling and should be considered in AFDP planning.

b. When preparing CPAF schedules that will cite numbers of days, be certain to specify work or calendar days, as applicable.

2-2E2

2-2:9

ATTACHMENT 2-2.1 - SAMPLE FORMAT

ACTIONS AND SCHEDULES
FOR ESTABLISHING AWARD FEE DETERMINATION PLAN

Covering _____

<u>Actions</u>	<u>Part II Reference</u>	<u>Proc. Activity Responsibility</u>	<u>Completion Dates</u>	
			<u>Scheduled</u>	<u>Actual</u>
1. Select prospective FDO, PEB Chairman and members	2-6B			
2. Review statement of work and other procurement requirements	2-2C			
3. Prepare proposed performance evaluation requirements				
a. Performance areas to be evaluated	2-4B			
b. Subareas to be considered	2-4B			
c. Evaluation criteria for each area	2-4C			
d. Bases for measuring performance against each criterion	2-4D			
e. Relative weights for areas and criteria	2-4E			
f. Schedule, number and duration of evaluation periods	2-5B			
g. Percentage of total award fee pool assigned to each evaluation period	2-5C			

-1-

2-2.1

2-2:10

<u>Actions</u>	<u>Part II Reference</u>	<u>Proc. Activity Responsibility</u>	<u>Completion Dates</u> <u>Scheduled Actual</u>
h. Grading table	2-5D		
1. Award fee conversion chart (if appropriate)	2-5E		
4. Prepare proposed organizational structure and functions	2-6B		
5. Prepare proposed method and schedules for evaluating performance and determining award fee earned	2-6C		
6. Prepare proposed method and schedules for changing plan coverage	2-6D		
7. Prepare <u>pro forma</u> AFDP	2-2C		
8. Draft proposed contract provisions covering award fee features	2-8B		
9. Draft proposed RFP provisions covering award fee features	2-8C		
10. Issue RFP including award fee features, and permit the submission of alternate plans	2-8B		
11. Evaluate award fee features in proposals submitted	2-8D		
12. Establish prenegotiation position concerning award fee features	2-8E		
13. Update <u>pro forma</u> AFDP to reflect prenegotiation position	2-8E		

-2-

2-2.1

2-2:11

<u>Actions</u>	<u>Part II Reference</u>	<u>Proc. Activity Responsibility</u>	<u>Completion Dates</u> <u>Scheduled Actual</u>	
14. Discuss <u>pro forma</u> AFDP with proposed contractor and negotiate proposed contract terms including coverage of AFDP and other award fee features, except those that should remain confidential for Government use	2-8E			
15. Approve formal AFDP prior to execution of contract	2-2C			

CPAF CONTRACT FEES
(Basic Terms and Meaning)

• **BASE FEE**



A FIXED DOLLAR AMOUNT (WHICH
COULD BE ZERO) THAT WILL BE PAID

(INTENDED TO PROVIDE AN ADEQUATE FEE FOR RENDERING MINIMUM
ACCEPTABLE PERFORMANCE)

• **AWARD FEE**



A POOL OF DOLLARS, IN ADDITION TO
BASE FEE, AVAILABLE FOR PAYMENT,
IF EARNED

(REPRESENTS ADDITIONAL FEE AVAILABLE TO REWARD PERFOR-
MANCE ABOVE MINIMUM ACCEPTABLE IN AREAS DESIGNATED
FOR EVALUATION UNDER CONTRACT)

• **MAXIMUM FEES
PAYABLE UNDER
CONTRACT**



BASE FEE + AWARD FEE

(MAXIMUM FEES PAYABLE UNDER A CPAF CONTRACT, AS FOR ANY
COST-REIMBURSEMENT TYPE CONTRACT INVOLVING A FEE, IS
SUBJECT TO THE LIMITATIONS SET OUT IN THE FEDERAL PROCURE-
MENT REGULATIONS, AS IMPLEMENTED BY THE PROCUREMENT
REGULATIONS OF THE DEPARTMENT OF ENERGY. SEE 2-3D OF THIS
PART II CONCERNING FEE LIMITATIONS AND APPROVALS.)

Figure 4

CHAPTER 2-3 FEES

A. INTRODUCTION

1. The fee established in a CPAF contract consists of two parts: (i) a fixed amount (base fee) which does not vary with performance and which could be zero, and (ii) an award amount (award fee pool), in addition to the fixed amount, sufficient to encourage attainment of excellent contract performance in the areas specified for evaluation. The base fee and award fee amounts are subject to an equitable adjustment if change orders or other contract modifications are issued during performance.

2. The fee amounts negotiated should provide for reasonable rewards. The sum of the base fee and the award fee, a total depicting the maximum fees payable under the contract, should reflect the character and difficulty of the contract effort and the results of any competition obtained. (See 2-3B4.)

3. This chapter provides guidance for use in establishing the base fee and award fee amounts to be included in contracts, as well as the payment of these fees.

B. BASE FEE

1. The base fee objective is determined individually for each contract. This objective is developed taking into consideration a variety of factors for determining profit or fee.

2. Usually, the base fee amount is intended to provide the contractor with an adequate fee for rendering minimum acceptable performance; it should be considered jointly with the award fee pool discussed below. This reflects the general requirement that the base fee should be set at a minimum in order to provide a large award fee pool, thereby providing the contractor maximum incentive to improve performance.

3. The base fee should normally not exceed 50 percent of the maximum allowable CPFF fee or the fee developed using the weighted guidelines method, whichever is applicable.

4. Some situations may justify the negotiation of a base fee commensurate with a performance level above minimum acceptable, satisfactory or acceptable, with the award fee pool reserved exclusively for performance in excess of that level. For example, this approach may be appropriate where experience indicates that a contractor is highly likely to continue to achieve at least a "satisfactory" performance level during a follow-on contract or during the extended term of an existing contract. In such a case, the evaluation requirements for award fee determinations should be applicable only to those performance areas where achievement above

2-3:2

the expected satisfactory level is both feasible and desirable. Awards of additional fee for performance exceeding satisfactory in these designated performance areas should be contingent on the maintenance of at least minimum acceptable levels in all other areas of contract performance. (See 2-3C4 for guidance concerning determinations of minimum acceptable levels of performance.)

C. AWARD FEE

1. The award fee pool is in addition to the base fee amount. It may be earned by the contractor in whole or in part, or not at all.

2. The award fee pool represents the additional amount available to reward the contractor for performance above the minimum level in the performance areas designated for evaluation under contract. If performance evaluation reflects sustained efforts of highest quality, there should be no reluctance to award the maximum available award fee for any evaluation period.

3. The amount of award fee earned is determined unilaterally by the FDO, whose position is designated in the contract. The procedure for evaluation of contractor performance and the determination of the award fee earned are to be covered in the AFDP, as addressed in Chapter 2-2. The award fee pool is distributed across the evaluation periods as stated in the evaluation requirements of the plan. This distribution of the award fee pool need not allocate award fee dollars equally among all periods. The dollars allocated to any period should reflect the risks of performance in light of expected or specified achievements.

4. The determination of any award fee for any period should be contingent on the contractor maintaining acceptable levels of ongoing performance in all areas under contract, whether specified as award fee areas or not. This means, for example, that if the FDO determines that performance in one award fee area does not meet the minimum acceptable level, then there could be a determination that no award fee be paid for that period. This condition, intended to reinforce the importance of overall contract performance, also means that the FDO must decide that the contractor has maintained minimum acceptable performance levels in all areas, even though some were not specified for evaluation. The FDO should consider the relative importance -- relative to overall performance -- of any area for which performance may be below minimum acceptable before determining that the contractor is not entitled to any award fee. For example, subminimal performance in a narrow or relatively insignificant area should not be used as a basis for denying award fee, especially if the contractor's overall performance for the period is substantially higher than the level expected.

5. The award fee pool should be sufficient to reward the contractor at any level of performance above the minimum designated in the evaluation requirements. The award fee pool and the base fee amount should be considered jointly, and the amounts established for each should be the

2-3C5

2-3:3

combination considered most likely to motivate the contractor to attain expressed performance levels covered in the AFDP.

6. Although the base fee should normally not exceed 50 percent of the maximum allowable CPFF fee as stated in 2-3B3, the combination of base fee plus award fee pool may normally exceed the maximum allowable CPFF fee or the fee developed using the weighted guidelines method, whichever is applicable, by up to 50 percent. The combination of base fee and award fee pool, however, cannot exceed the limitations specified in 2-3D1, below.

7. If the award fee concept is successful in motivating the contractor toward the achievement of higher performance levels in areas covered by award fee evaluation requirements, then the expected result is the payment of total fees greater in amount than the fixed fee that might have been established and paid under a CPFF contract. The difference should represent compensation for better performance for the cost incurred, or a similar level of performance at less cost incurred, or a combination of both.

B. FEE LIMITATIONS AND APPROVALS

1. In the case of cost-reimbursement type contracts involving a fee (i.e., CPFF, CPAF and CPIF), the maximum fee in each case is subject to the limitations set out in the Federal Procurement Regulations and the procurement regulations of the Department of Energy. For a CPAF contract, this means that the total fees to be placed under contract (the base fee plus award fee pool) cannot exceed 15 percent of the negotiated estimated cost, exclusive of fees, in contracts for experimental, developmental, or research work; or 10 percent of the negotiated estimated cost, exclusive of fees, in contracts for other work.

2. Even though the total fees for a CPAF contract fall within the limitations specified in 2-3D1, above, prior approval of the Director, Procurement and Contracts Management Directorate, is required for total fees that exceed:

- a. The maximum allowable CPFF fee by more than 50 percent;
- b. The fee developed using the weighted guidelines method for contracts performed in commercial facilities by more than 50 percent.

3. The following example illustrates where prior approval of the Director, Procurement and Contracts Management Directorate, would be required:

a. Assumptions:

- Production-type operating contract
- Estimated cost (fee base) \$10,000,000

2-3D3

2-3:4

• Maximum allowable CPFF fee	430,000
• Proposed base fee	220,000
• Proposed award fee pool	428,000
• Total fees proposed	648,000
• 150 percent of maximum allowable CPFF fee	645,000

b. Prior approval is required since the total fees (\$648,000) exceeds 150 percent of the maximum allowable CPFF fee (\$645,000).

c. If the proposed award fee pool was \$420,000, making for total fees of \$640,000, prior approval would not be required even though the proposed base fee (\$220,000) is in excess of 50 percent of the maximum allowable CPFF fee. The base fee should normally not exceed 50 percent of the maximum allowable CPFF fee, but it does not require prior approval if the base fee does, unless the total fees (the base fee plus the award fee pool) exceeds 150 percent of the maximum allowable CPFF fee.

4. The following example illustrates when total fees exceeds the above limitations:

a. Assumptions:

• Contract for developmental work to be performed in commercial facilities	
• Estimated cost, exclusive of fees	\$20,000,000
• Weighted guidelines fee	2,136,000
• Proposed base fee	1,060,000
• Proposed award fee pool	2,140,000
• Total fees proposed	3,200,000
• 15 percent of estimated cost	3,000,000

b. The total fees proposed (\$3,200,000) exceeds 15 percent of the estimated cost, exclusive of fees, even though the total fees is less than 150 percent of the weighted guidelines fee. In this example, the maximum fees to be placed under contract cannot exceed 15 percent of the estimated cost, exclusive of fees, or \$3,000,000.

2-3D4

2-3:5

5. Requests for prior approvals should be well documented and state specifically why the contractor is entitled to the fees involved.

E. PAYMENT OF FEES

Payment of the base fee and award fee earned will be made as provided in the contract.

1. BASE FEE

Base fee payments should be made periodically in a manner similar to the payment of fixed fees under a CPFF contract.

2. AWARD FEE

a. Award fees will be paid only after the amount of the award fee earned has been established. Payment of award fee earned should be made promptly after the award decision has been made for each evaluation period.

b. The payment of award fee earned will correspond to the amount of the award fee pool available for each of the evaluation periods. This helps make effective the incentive that the award fee was designed to create -- to motivate the contractor toward continuously excellent performance.

c. All of the agreed-to award fee should be obligated under the basic contract. When this is not feasible, then a sufficient portion of the award fee should be obligated well in advance of the time when it will be needed for payment. The practice of total obligation at the outset, whenever feasible, will eliminate possible delays in the preparation and issuance of contract modifications covering the award fee amounts. If this practice is followed, the contractor can submit its voucher for payment, attach the FDO's award fee determination as support, and be paid promptly after the award fee decision has been made.

DETERMINING A PERFORMANCE MEASUREMENT FRAMEWORK
(An Example of An Evaluation/Measurement Breakdown)

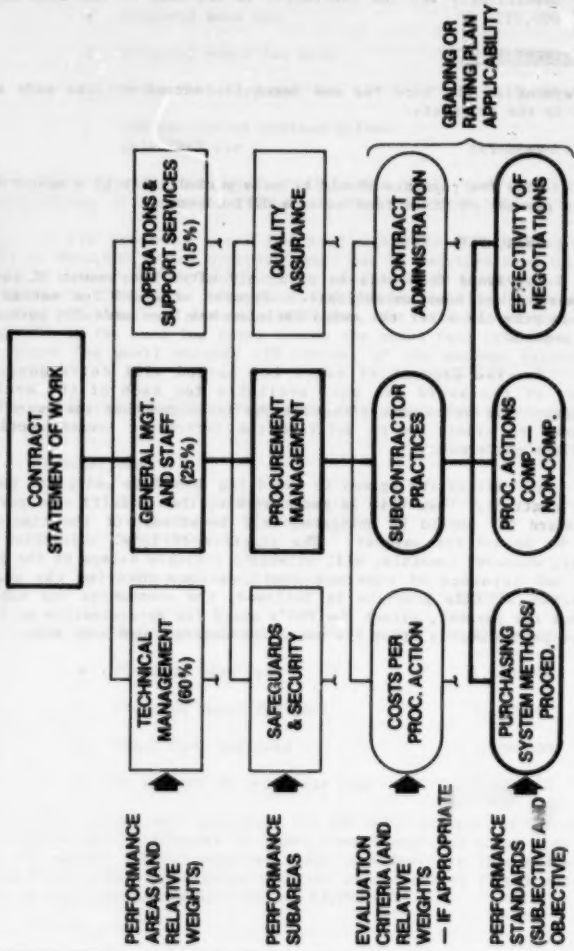


Figure 5

CHAPTER 2-4 PERFORMANCE AREAS AND EVALUATION FACTORS

A. INTRODUCTION

1. This chapter provides guidance concerning the structuring of performance areas to be incentivized and the evaluation factors to be used for each area (i.e., the evaluation criteria, the bases for measuring each criterion, and the relative weights assigned to performance areas and criteria).

2. The structuring of performance areas and evaluation factors, as well as their articulation in the AFDP, will differ widely from one contract to another. Their selection must consider the degree to which they will influence and motivate the contractor to optimize its resources and to work toward continuously excellent performance.

3. As mentioned in 2-2C2, the AFDP should be as simple as feasible. This is especially true in its identification of performance areas and evaluation factors. Fragmentation of the award fee pool over a large number of performance areas, or evaluation criteria, may have a harmful effect on contractor performance. That is, the motivation to perform may become diluted, literally spread across too many areas.

4. A thoughtful survey of contractor and procuring activity experience in similar contractual situations should help to identify problem and performance improvement areas. This action, along with the development of declarative and unambiguous criteria and bases for measuring performance, will reduce the administrative burden and, at the same time, help to assure increased motivation to perform.

5. The need for simplicity does not imply a requirement to standardize the selection of performance areas and evaluation factors. Uniform application of the same or similar criteria to dissimilar functions can decrease motivation and almost certainly will increase administrative effort. As distinguished from the continuing application of generally useful performance area designators, rigid standardization tends to generate evaluation formats that are either too bland or include criteria that are inapplicable to special performance functions. In either case, evaluators are likely to experience difficulty in providing meaningful comments and grading. It is preferable to tailor the AFDP to fit the circumstances, and, if necessary, to revise it during performance as, and if, provided by the terms of the contract.

B. PERFORMANCE AREAS

1. An analysis should be made of the statement of work and attending standards and specifications to determine those areas of performance that are susceptible to being incentivized and measured. Work or tasks to be performed usually can be divided or broken down into broad

**SELECTING PERFORMANCE AREAS
TO BE INCENTIVIZED**

(An Area/Subarea Determination Checklist)

- IS THE AREA/SUBAREA MEANINGFUL AND IMPORTANT TO OVERALL PERFORMANCE OBJECTIVES?
- IS IT DESCRIBED DISCRETELY SO THAT THERE WILL BE NO UNNECESSARY DUPLICATION IN THE EVALUATION PROCESS?
- WILL THE CONTRACTOR HAVE EFFECTIVE MANAGEMENT CONTROL OVER PERFORMANCE AND ITS RESULTS?
- ARE THERE APPROPRIATE CRITERIA FOR EVALUATING PERFORMANCE?
- ARE THERE APPROPRIATE BASES OR STANDARDS FOR MEASURING PERFORMANCE CRITERIA?

Figure 6

2-4:3

functional categories such as operations, technical management, logistics management and business management. Each broad category can then be examined and divided or separated into more discrete performance areas such as safeguards and security, quality assurance, environmental management and procurement management. These performance areas, in turn, can be divided into subareas, which may be separated further into elements and subelements.

2. As indicated in 2-4A3, fragmentation of the award fee pool over meaningless or confused performance areas will dilute contractor motivation. Complicated performance area designators, along with extremely specific subarea identifiers, may lead to two unwanted results: overloaded performance monitor activities and excessive concentration on paperwork.

3. Unless there are good reasons for doing so, subareas and lower levels under major performance areas need not be incentivized. Subareas and lower levels are helpful, however, in pointing out what major performance area activities include, as well as representing checkpoints to note any possible overlap in functions across the major performance areas.

4. When selecting performance areas, keep in mind that all functions required by the statement of work do not have to be incentivized. For example, the statement of work may require the contractor to perform certain activities to a minimum required level of achievement. The ability to do better than that minimum may be gratifying. But if it represents increasingly greater costs, then perhaps the benefits of improved performance are too few. Much of the work accomplished by a contractor requires only that it be done, and in being done, it represents optimum performance. In fact, varying degrees of accomplishment, even if measurable, are meaningless for incentive purposes.

5. Before selecting a performance area to be incentivized, each of the following questions should be answered in the affirmative:

- Is the area meaningful and important to overall performance objectives?
- Is it described discretely so that there will be no unnecessary duplication in the evaluation process?
- Will the contractor have effective management control over performance and its results?
- Are there appropriate criteria for evaluation as addressed in 2-4C?
- Are there appropriate bases or standards for measuring performance for each criterion as addressed in 2-4D?

2-4B5

2-4:4

6. After selection of the performance areas to be incentivized, a decision can be made as to their relative importance and an appropriate weight assigned to each as indicated in 2-4E.

C. EVALUATION CRITERIA

1. The AFDP should identify the criteria that will be used in evaluating contractor performance. Usually, these criteria consist of sharp, discrete indicators backed up by details reflecting the bases for measurement as addressed in 2-4D.

2. As in the case of performance areas, the selection of evaluation criteria should result in those that are meaningful in motivating the contractor toward meeting overall contract objectives. Generally, the first consideration is to identify broad categories of evaluation criteria, such as quality, timeliness and cost. Then consideration is given to identifying criteria that need be applied within each broad category, such as thoroughness and accuracy, planning effectiveness, and effectiveness in controlling indirect costs.

3. When selecting criteria, remember that cost as a criterion is to be considered in each case, because the cost of performance should be proportionate to expected outcomes and benefits. If appropriate, the evaluation criteria for each performance area may be assigned weights as indicated in 2-4E to reflect their relative importance.

4. Depending on the procurement situation, evaluation criteria may include performance outputs, inputs, or a combination of both. Output criteria are bases for evaluating the end-results of contract performance, such as the quality of end-items delivered or services rendered, the actual time of their delivery or completion, and the actual cost incurred. Their use has obvious advantages, but there are potential disadvantages as well. In some situations, end-results may not be discernible until it is too late for an award fee evaluation process to have any appreciable effect on the direction in which these results are heading. Also, given the uncertainties that made it necessary to use a cost-reimbursement type contract, an evaluation by output criteria may not provide a true or complete picture of actual accomplishment. For example, the incurrence of a cost underrun or overrun may reflect less on contractor cost control accomplishments than on the uncertainties existing at the time the contract cost estimate was established.

5. For these and other reasons, input criteria often are used instead of, or as a supplement to, the use of output criteria. Input criteria are bases for evaluating intermediate processes, procedures, actions or techniques that experience and analysis indicate will be key factors influencing successful contract performance. These include, but are not limited to, such diverse areas as the following: testing and other engineering processes and techniques; quality assurance and

2-4:5

maintenance procedures; purchasing department management; and inventory, work assignment and budgetary controls. The important point is not whether criteria relate to outputs or inputs, but whether those selected permit a timely and equitable evaluation of the total impact of contractor performance. Remember that monitoring and evaluation are enhanced to the extent that the evaluation criteria permit an assessment of performance results (output) as well as the methods and procedures used to achieve them (input).

D. BASES FOR MEASURING PERFORMANCE

1. GENERAL

a. As stated in 2-4C, each evaluation criterion in the AFDP should be backed up by details reflecting the bases for measuring performance. Such criteria as timeliness, quality and cost control are, no doubt, very appropriate. But how is quality to be defined? What is timeliness? What constitutes good cost control? The following paragraphs provide guidance for answering these important questions.

b. The bases for measurement should be expressed in declarative and unambiguous language and should anticipate an evaluation of both performance levels and the conditions under which the levels were achieved.

2. THE STATEMENT OF WORK

a. In certain contracts, it is difficult to specify all performance requirements. The Government often is unable to specify precisely how many person-hours will be required, how much material will be used, and many other details. If the Government could do so, then an objective, well-structured, higher-risk contract type should be used. In view of statement of work uncertainty, the CPAF arrangement is considered to be an appropriate contract type for use in many cases.

b. Although the statement of work may not define precisely all of its requirements, the overall end-result of contract performance is certainly determinable. All the various tasks or work orders that evolve from a statement of work should be capable of reasonable definition. Although various changes and unforeseen problems may arise during the course of a CPAF contract, the evaluation requirements may be altered unilaterally to take account of changed conditions.

c. To the extent feasible, the statement of work should be structured to indicate precisely what the Government anticipates in the way of results. Where possible, the tasks that evolve from the statement of work should be structured so as to present finite, short-term output requirements toward which the contractor may work. The bases for measuring performance can be derived from such short-term goals and objectives.

2-4D2

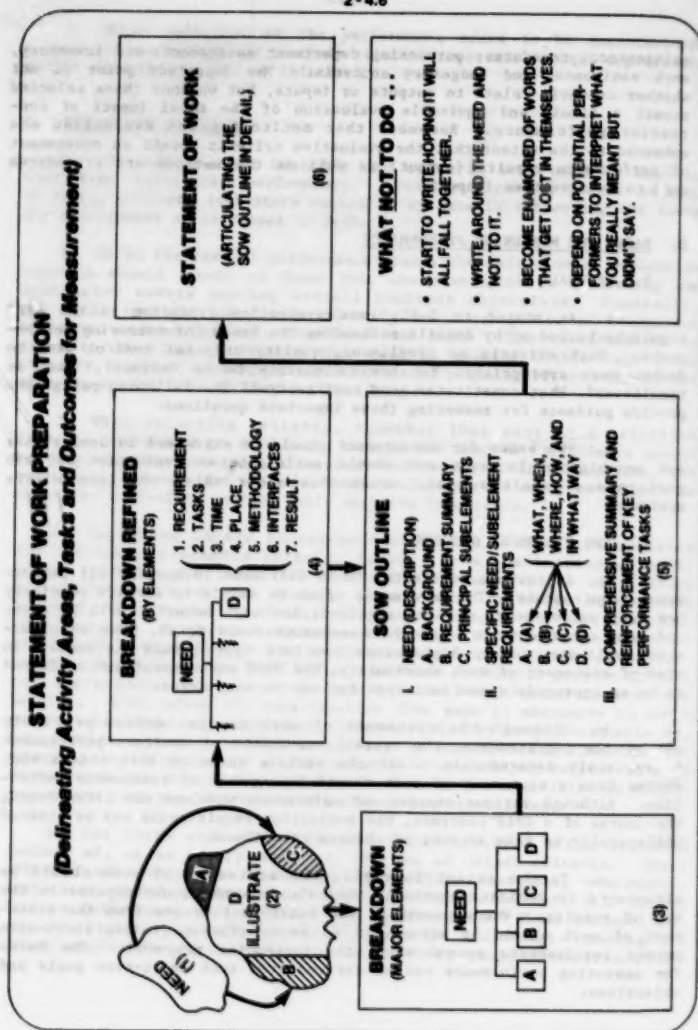


Figure 7

2-4:7

d. As work progresses during contractor activity, it should be possible to define an increasing number of tasks or work areas that reflect total performance requirements. If this is done, each task or work order (or combinations of them in major performance areas) may be utilized as the basic unit or area to be evaluated. The task or work order should specify what is to be done, the estimated effort in terms of labor, materials and time required, and the quality and requirements (including criteria) for defining acceptable performance.

e. At the end of each performance evaluation period, completed task or work orders may be reviewed and performance of the contractor determined on the basis of whether or not, and to what degree, each was completed in terms of cost, time and quality.

3. SUBJECTIVE AND OBJECTIVE MEASUREMENTS

a. It is important to understand the distinction between subjective and objective evaluations of contractor performance. Subjective assessment is required where a given performance situation cannot be measured with the precision of mathematical, mechanical or similar objective measurement methods. In such cases, evaluation of contractor performance must be made on the basis of a subjective analysis that reflects the evaluator's opinions and impressions as to the level of performance achieved by the contractor. The key to effective subjective assessments is that they should be as informed as possible; personal bias or intuitive feeling are not the hallmarks of subjective appraisal.

b. Objective assessments, on the other hand, suggest that the parameters for measuring performance are well-defined, that they are physically or mathematically measurable, and that any two parties of like expertise reviewing a given work effort would be able to determine the extent of performance achievement in some reasonably equal, provable manner.

c. As indicated in 2-4C, inputs are the various actions and tasks that a contractor must complete to achieve final results. For example, evaluation criteria listed under the performance heading of "Supervision" might include the following:

- Efficient use of personnel.
- Ability to control personnel.
- Adequately planned work.
- Provision of adequate tools and equipment to employees.

Each of these criteria would result in an assessment based largely on the informed judgment of the evaluators or monitors assigned to appraise contractor performance in the area of "Supervision."

2-4:8

d. On the other hand, if the evaluation were to be made on the basis of a contractor delivering an item or end-result in response to a given task, the following would be measurable outputs: completion of a test on time with the number of personnel anticipated, or test results within the quality requirements specified for the task. Note that with well-defined, measurable outputs, no significant "judgment" (as distinguished from knowledge, experience or skill) on the part of an evaluator or monitor is required as to how a contractor did the job. The only consideration is whether the job was done in the time required, to a specified level of quality.

e. In short:

- Subjectivity is akin to estimating or appraising contractor performance as a function of informed opinions, impressions and observations.
- Objectivity is akin to measuring contractor performance, in some reasonably provable manner, using finite methods of calculation to determine results.

4. QUANTITATIVE MEASUREMENTS OR TECHNIQUES

a. Quantitative measurements or techniques are not substitutes for judgment, nor do they eliminate the need to evaluate the types of performance conditions mentioned above. They do, however, serve to quantify the facts considered in arriving at required judgmental assessments. The greater the ability to identify and quantify the facts considered in arriving at judgments, the more credible these judgments are likely to be, as well as the documentation prepared to support them. The use of quantitative measurements or techniques is encouraged for this reason, and a good starting point is to review the selected criteria for performance evaluation in order to determine the extent to which any of them may be subject to quantitative measurement.

b. While quantitative measurements or techniques can be of considerable help in the evaluation process, they should not be force fitted as a convenience. The performance situation and applicable evaluation criteria must be such that a quantitative approach is feasible and likely to result in a realistic portrayal of contractor performance. Furthermore, sufficient information or experience must be available to permit the development of standards for the use of quantitative measurements or techniques. In other words, a quantitative measurement is meaningful only if it can be equated to a given performance level through the use of realistic standards. In this regard, any standard should reflect not only the nature and difficulty of the work involved, but also the level of contractor experience in performing like or similar work. This is particularly true in service-type contracts where the effect of learning over time should provide the contractor with an increasingly effective ability to achieve higher performance levels.

c. Quantitative performance measurement guidelines can be developed from industrial or historical standards to serve as a basis for the monitoring of highly repetitive functions or services. There are several "yardsticks" of performance already available to measure quality, time and cost for many functions that may be performed under CPAF contracts. The utilization of these "yardsticks" will simplify the assessment and reporting processes and provide the use of criteria that permit an objective evaluation of contractor performance. Simple examples of performance measurement guides or "yardsticks" are the average number of person-hours for cleaning 1,000 square feet of floor area, the average time per page for technical writing in a specific area, or the average time per print in film processing.

5. QUALITY REVIEW MEASUREMENTS

In those situations where quantitative measurements or techniques are inappropriate or impractical, a "quality review" approach should be considered. This approach requires the development of an evaluation questionnaire that permits overall "yes" or "no" answers. The higher the proportion of "yes" answers, the stronger the indication of effective performance. The answers obtained, when augmented by an evaluation of existing conditions, can provide a basis for assessing contractor performance. A simple device, no doubt, but one that may be fair and reasonable where performance tasks are straightforward and do not require a more detailed evaluation or rating system. Some weighting system should be devised for the major quality indicators.

6. EVALUATION STANDARDS

a. Among the key factors to be covered in an AFDP are the standards by which a contractor's performance will be assessed or measured for each evaluation criterion.

b. Whenever possible, the statement of work should specify general quality system requirements and further cite specific standards and applicable specifications. These standards, in most instances, provide gauges or specific requirements in light of which contractor performance can or will be evaluated.

c. Standards for evaluating contractor performance should be coupled with achievable performance ranges expressed in the AFDP before work begins so that as much objectivity as possible can prevail during the evaluation process. In structuring CPAF contracts, the aim should be to provide objective criteria whenever possible, complemented by a comprehensive set of performance standards for use by monitors and evaluators in assessing or measuring on-going contractor activities.

d. Evaluation standards should be structured in such a way that any two or more individuals evaluating contractor performance in a specific area will assign, in all likelihood, very nearly the same grade. By assigning reasonably explicit standards for the evaluation of contractor performance, the probability increases that the evaluation will

**CREATING PERFORMANCE STANDARDS
FOR EVALUATION AND ASSESSMENT
(A Standards Utilization Checklist)**

- IS THE STANDARD RELATIVE AS A BASIS FOR MEASURING PERFORMANCE UNDER THE SPECIFIED CRITERION FOR THE SELECTED PERFORMANCE AREA?
- IS IT EXPRESSED AS DECLARATIVELY AND UNAMBIGUOUSLY AS POSSIBLE? (IS IT AN IMPRECISE COLLECTION OF WORDS OR DOES IT PROVIDE THE BASIS FOR A REASONABLE EVALUATION?)
- DOES IT PERMIT A PRECISE OR FINITE CALCULATION OR DETERMINATION TO BE MADE (AN OBJECTIVE STANDARD)?
- DOES IT PERMIT AN INFORMED OPINION, IMPRESSION OR OBSERVATION TO BE MADE (A SUBJECTIVE STANDARD)?
- IF IT IS AN ADMIXTURE OF OBJECTIVE AND SUBJECTIVE ELEMENTS, DOES IT HAVE A CENTRAL FOCUS?
- DOES IT MAKE SENSE?

Figure 8

2-4:11

be more objective. Not every performance area is amenable to objective evaluation; that should be understood. Where it is possible, however, to craft declarative and unambiguous evaluation standards, this should be done.

e. It is difficult to defend the observation that objective evaluation criteria and definitive performance standards cannot be generated for CPAF contract performance. The conversion from a CPFF to CPAF contract type should force a substantive evaluation of all scope-of-work statements. Chances are that this will reveal a potential for major improvements in performance definition. The need to prepare objective criteria and standards for assessing this performance should open the way to vastly improved management control systems. Virtually all desired results are reducible to some standard of acceptability. For example, hardware contracts usually include quality assurance requirements that reflect sound objective standards. For non-hardware results, if a sound description of what constitutes acceptable work for an area cannot be described, there is little point to incentivize the area.

E. WEIGHTING AREAS AND CRITERIA

1. In addition to identifying performance areas to be incentivized and how this performance will be measured, the AFDP should indicate the relative priorities assigned to the areas and, as appropriate, the various criteria.

2. Although relative priorities may be identified by using narrative phrases such as "more important," "important," and "less important," the usual practice is to use percentage weightings. For example, if there are only two performance areas and one is considered to be three times as important as the other, they would be assigned weights of 75 percent and 25 percent, respectively. In all instances, the sum of percentage weights will equal 100.

3. The assignment of weights provides a means for signifying the emphasis placed on the areas or criteria. For example, if experience with a contractor indicates technical performance at levels above optimum, but at unnecessarily high levels of cost, then cost-effective criteria might be weighted more heavily than others. Although there are no set rules for assigning weights, they should be distributed to reflect the significance of performance areas in terms of specified or expected outcomes.

4. As indicated in 2-5F, weights are quantifying devices, the sole purpose of which is to communicate the fact of relative priorities. In no way do they impute an arithmetical precision to the judgmental determinations or assessments of overall performance and the amount of award fee earned. The AFDP should make this clear.

2-4E4

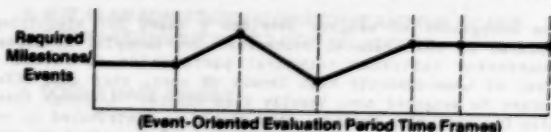
**PERFORMANCE EVALUATION PERIODS
AND AWARD FEE DISTRIBUTION**
(Two Examples of Contrasting Application)

- **LABOR-INTENSIVE EFFORT, WHERE APPLICATION OF RESOURCES IS LARGELY CONSTANT THROUGHOUT CONTRACT PERFORMANCE**



(EVALUATION PERIODS OF EQUAL DURATION, WITH MAXIMUM AVAILABLE AWARD FEE POOL DISTRIBUTED EVENLY AND EQUALLY ACROSS ALL PRESCRIBED PERIODS)

- **EVENT-ORIENTED EFFORT, WHERE APPLICATION OF RESOURCES IS REQUIRED TO MEET PRESCRIBED MILESTONES OR EVENTS THROUGHOUT CONTRACT PERFORMANCE**



(EVALUATION PERIODS OF UNEVEN LENGTH, WITH MAXIMUM AVAILABLE AWARD FEE POOL DISTRIBUTED UNEVENLY AND UNEQUALLY ACROSS ALL PRESCRIBED PERIODS)

Figure 9

CHAPTER 2-5 EVALUATION PERIODS AND QUANTIFYING DEVICES

A. INTRODUCTION

1. This chapter provides guidance on when evaluation should be performed, the distribution of the total award fee pool to selected evaluation periods, and quantifying devices for use in arriving at a general indication of the amount of award fee earned.

2. As in the case of other evaluation requirements, the evaluation periods, the distribution of award fee to these periods -- if not otherwise set forth in the contract, and the use of grading tables and conversion charts may be changed unilaterally by the Government to reflect changed or altered conditions of performance. Such change may arise from shifting management emphases or opportunities to provide increased motivation for the application of award fee efforts.

B. EVALUATION PERIODS

1. It is essential that contract performance should be evaluated at predetermined, stated intervals so that the contractor will know how its performance is rated and what areas need to be improved. This provides the basis for payment of the available award fee earned at the conclusion of the stated evaluation periods. Stated evaluation periods, of course, contribute to the effectiveness of the incentive for which the award fee was designed -- to motivate the contractor to improve from subminimal performance or to continue on with excellent performance.

2. The length of evaluation periods is determined on a case-by-case basis and stated in the AFDP. Generally, quarterly periods are preferred, if feasible. If longer periods are used, the benefit of improved communications with the contractor may be jeopardized. If quarterly evaluation periods are not feasible, because of effort and time required or for other reasons, the longer periods should not normally exceed six months.

3. Whatever the length of evaluation periods, the AFDP should provide for interim evaluations and periodic (e.g., monthly) discussions with the contractor's upper management personnel so that they may take appropriate action to influence performance during the remainder of the evaluation period. Interim evaluations and discussions are especially important if the duration of the entire evaluation period exceeds three or four months.

4. Evaluation periods do not need to be of equal length throughout contract performance. For example, if an important process or event is involved, and the results may not be measurable until it is substantially complete or met, the evaluation period could be made to coincide with process performance milestones or event completion.

5. In the final analysis, sound administration of a CPAF contract is characterized by a proper balancing between the need for an adequate evaluation effort and supporting documentation on the one hand and timely actions on the other.

6. If evaluation periods are too long, there may be a tendency to postpone actions that should be given prompt attention. For instance, a slippage of evaluation reporting under a CPAF arrangement may leave the contractor without timely information about aspects of its ongoing performance that are susceptible to improvement. A predisposition to regard longer evaluation periods as helpful (that is, as a flexible cushion of time) is, in fact, harmful to the award fee environment. Likewise, evaluation periods of too short a duration have their own problems: performance assessments tied to time frames that are unreasonably brief; hasty judgments generated by rapid turnaround deadlines; and heavy administrative efforts that may compromise time that otherwise should be given to thoughtful performance appraisal.

C. DISTRIBUTION OF AWARD FEE TO EVALUATION PERIODS

1. The distribution of the total award fee pool to evaluation periods depends on the circumstances of each case. The total may be allocated equally among the evaluation periods, or larger portions may be distributed to some periods, as appropriate.

2. In service-type or labor-intensive contracts, the total award fee should be distributed in reasonable proportion to the labor effort expected to be expended during the evaluation periods.

3. If completion of a contract depends on the successful completion of a series of critical events, the award fee should be distributed among the periods in reasonable proportion to the importance of events expected to occur during each of them.

4. In some cases, the distribution may be influenced by periods during which significant evaluation criteria can be applied most meaningfully.

5. In short, the award fee should be distributed among the periods in such amounts available for payment as will motivate the contractor to optimize the use of its resources in pursuing performance objectives or goals. If the contract provides for it, remember that prior to the beginning of an evaluation period the FDO may unilaterally change the distribution of the total award fee allocated to the remaining evaluation periods to reflect any changes in performance objectives or goals.

6. As a general rule, the award fee available for an evaluation period is either earned, in whole or in part, and any unearned amount is lost forever. For example, if the award fee assigned to an evaluation period is \$200,000 and the contractor earns \$150,000 of this amount, the remaining \$50,000 cannot be distributed to subsequent periods, except

2-5:3

as indicated in 7, below. This should motivate contractors to perform excellently in all periods.

7. There may be situations, such as in certain construction contracts or other contracts providing for completion of scheduled events or for end-item deliveries, in which part or all of the unearned fee could be used to motivate a contractor in subsequent periods. For example, if a portion of the award fee available for a period is not earned because of contractor failure to meet an expected milestone, and the slippage could be made up during a subsequent period with better attention by corporate management, then it might be in the Government's best interest to reserve a specific portion of the unearned fee and hold it for later payment in the event that contractor progress returns to the original schedule. In this example, the use of unearned fee should be contingent on the contractor making up the slippage without adversely affecting the overall requirements of the contract or the cost of performance. If such an approach is used, the contract must make provision for it by including an appropriate contract clause. In view of the nature of this approach, its use should be clearly justified in each case and approved by the head of the procuring activity.

D. GRADING TABLES

1. Grading tables are quantifying devices for assigning numerical grades to various levels of performance achieved by contractors. Usually these tables employ the following three columns:

a. A first column listing adjectives or symbols to indicate a range of performance levels (e.g., good, excellent, or whatever...or A, B, C and so forth).

b. A second column describing or characterizing the performance levels identified by the adjectives or symbols.

c. A third column indicating the performance points or other types of numerical grades (e.g., percentage points) applicable to the adjectives or symbols described or characterized in the second column.

2. Attachment 2-5.1 illustrates a grading table of the kind identified above. It uses symbolic indicators for the range of performance. It could just as easily employ adjectival indicators. Whichever are used, the important features of a grading table are the descriptors and the alignment of the numerical grades to fit them. Remember that when structuring a grading table there should be a reasonable expectation that a contractor can perform at the highest level of the expressed performance range. In other words, the top grade should be reasonably attainable; it should not be construed as representing flawless performance. As stated in 2-2C2, unachievable levels of performance are an incentive to avoid them, since by definition they cannot be met.

2-5D2

2-5:4

3. In Attachment 2-5.1, the median grade above 60 performance points is 80. As a general rule, the median grade should correspond to the performance level normally expected of the contractor, while the other performance points should correspond to deviations from the median in the directions of either better or worse performance. If there are no bases for judging what performance level is expected of the contractor, then the standard performance level approach should be used, standard performance being that level which can be expected from any competent contractor.

4. If it is advantageous to align performance points so that the median does not correspond to the performance level normally expected of the contractor, as indicated above, then the median of the spread in points between no award fee and 100 percent award fee should correspond to the standard performance level approach. In the latter case, and as indicated in 2-5E, the award fee conversion chart should reflect that the contractor earns the base fee plus 50 percent of the available award fee for normal or standard performance. In other words, the conversion chart displays the probability that the contractor has an equal opportunity to earn the entire award fee or none at all.

5. In practice, the FEH usually evaluates contractor performance in each area designated in the evaluation requirements, using the specified evaluation criteria and bases for measuring performance. The FEH assigns those performance or percentage points, as described in the grading table, that it considers indicative of achieved performance levels. It is important, therefore, that performance areas and evaluation criteria be structured so that the contractor has a reasonable chance of receiving the top performance or percentage points for each area or criterion to be graded.

E. AWARD FEE CONVERSION CHARTS

1. Award fee conversion charts are quantifying devices for converting performance points to percentages of available award fee.

2. Attachment 2-5.2 illustrates an award fee conversion chart that is compatible with the grading table illustrated in Attachment 2-5.1. It merely indicates the percentage of award fee earned for each performance point in the grading table illustrated in Attachment 2-5.1. As can be seen, the award fee percent for the median of 80 performance points is 50.

3. In Attachment 2-5.2 the total award fee (100%) is distributed evenly to each of the 40 performance points above 60 (i.e., 2.5 percent per performance point). This approach does not need to be followed in every case. It may be that more incentive is required at some levels of the performance range described in the grading table and less in others. For example, you may find that the real range of incentive effectiveness is between 70 and 91 performance points, and that 3 percent of the award fee should be allocated to each of the 20 points in the 71-through-90

2-5:5

range, with 2 percent allocated to each of the remaining 20 points in the 91-through-100 and 61-through-70 ranges.

4. Some procuring activities have found it more convenient not to employ the conversion chart technique. Instead, they list all of the applicable percentage points in the grading table in place of the applicable performance points. If this approach had been used instead of the one illustrated in Attachments 2-5.1 and 2-5.2, the grading table percentage points would range upwards starting with 0 percent in place of 60 performance points, 2.5 percent in place of 61 points, and so forth. The downward range would start with a -2.5 percent instead of 59 points, and so forth.

F. USE OF QUANTIFYING DEVICES

1. GENERAL

a. Although award fee determinations are unilateral based on judgmental evaluations, quantifying devices such as adjectival ratings, point systems, or percentages of achievement may be used to assist the overall determination process. Where used, these devices are for the sole purpose of quantifying the facts considered, and the amount of award fee earned shall not be merely the result of the application of summing, averaging or a mathematical formula.

b. While innovation in the shaping of quantifying devices is encouraged, there are three such devices that represent the experience of many applications across Government contracting over the years:

(1) Percentage weights assigned to both performance areas and evaluation criteria that communicate the relative importance of these areas and criteria. These are addressed in 2-4E.

(2) Grading tables as addressed in 2-3D.

(3) Award fee conversion charts as addressed in 2-5E.

c. The AFDP should make it clear that the sole purpose of any employed quantifying device is to provide guidance in arriving at a general indication of the amount of award fee earned. It also should make clear that these devices in no way impute an arithmetical precision to the ultimate judgmental determination of overall contractor performance and the amount of the award fee earned. Quantifying devices are media that contribute to the appraisal or evaluation process. That is, they are means of evaluation, not ends in themselves.

d. The following paragraphs illustrate how these devices are used to arrive at an indication of the amount of award fee earned.

2-5F1

2-5:6

2. PERFORMANCE AREAS WEIGHTED AND EVALUATION CRITERIA NOT WEIGHTED

a. Assumptions:

(1) Award fee available for the evaluation period is \$200,000.

(2) There are three performance areas to be evaluated, with relative percentage weights assigned as follows:

<u>Area</u>	<u>Percentage Weight</u>
Technical Management	50
General Management	30
Support Services	20

(3) Attachments 2-5.1 and 2-5.2 apply.

(4) The PEB evaluates performance in each area and assigns performance points to each as follows, using the grading table of Attachment 2-5.1:

<u>Area</u>	<u>Performance Points</u>
Technical Management	90
General Management	81
Support Services	68

b. Computation of total weighted performance points for all performance areas:

<u>Area</u>	<u>Percentage Weight</u>	X	<u>Performance Points</u>	=	<u>Weighted Points</u>
Technical Management	50		90		45
General Management	30		81		24
Support Services	20		68		14
Total for All Areas:					<u>83</u>

c. Percent of award fee earned for 83 performance points per Attachment 2-5.2: 57.5%.

2-5:7

d. Award fee earned: \$115,000 (57.5% of \$200,000).

3. PERFORMANCE AREAS WEIGHTED AND EVALUATION CRITERIA WEIGHTED

a. Assumptions:

(1) Award fee available for the evaluation period is \$200,000.

(2) There are three performance areas to be evaluated, with relative percentage points assigned as follows:

<u>Area</u>	<u>Percentage Weight</u>
Technical Management	50
General Management	30
Support Services	20

(3) Area evaluation criteria are weighted as follows:

<u>Area</u>	<u>Criteria</u>	<u>Percentage Weight</u>
Technical Management	Budget	30
	Planning	50
	Scheduling	20
General Management	Safety	60
	Procurement	40
Support Services	Energy Use	70
	Site Care	30

(4) Attachments 2-5.1 and 2-5.2 apply.

(5) The PEB evaluates performance and assigns performance points to each evaluation criterion as follows, using the grading table of Attachment 2-5.1:

<u>Criteria</u>	<u>Performance Points</u>
Budget	95
Planning	88
Scheduling	85
Safety	70
Procurement	86

2-5:8

<u>Criteria</u>	<u>Performance Points</u>
-----------------	---------------------------

Energy Use	70
------------	----

Site Care	55
-----------	----

b. Computation of total weighted performance points for each criterion:

<u>Criteria</u>	<u>Percentage Weight</u>	<u>X</u>	<u>Performance Points</u>	<u>=</u>	<u>Weighted Points</u>
Budget	30		95		29
Planning	50		88		44
Scheduling	20		85		<u>17</u>
Total for Technical Management:					<u>90</u>
Safety	60		70		42
Procurement	40		86		<u>34</u>
Total for General Management:					<u>76</u>
Energy Use	70		70		49
Site Care	30		55		<u>17</u>
Total for Support Services:					<u>66</u>

c. Computation of total weighted performance points for all performance areas:

<u>Area</u>	<u>Percentage Weight</u>	<u>X</u>	<u>Performance Points</u>	<u>=</u>	<u>Weighted Points</u>
Technical Management	50		90		45
General Management	30		76		23
Support Services	20		66		<u>13</u>
Total for All Areas:					<u>81</u>

2-5:9

d. Percent of award fee earned for 81 performance points per Attachment 2-5.2: 52.5%.

e. Award fee earned: \$105,000 (52.5% of \$200,000).

4. GRADING TABLE SPECIFIES AWARD FEE PERCENTAGES INSTEAD OF PERFORMANCE POINTS

a. Assumptions:

(1) Same as 3a(1) above.

(2) Same as 3a(2) above.

(3) Same as 3a(3) above.

(4) The grading table reflects the percentage points on Attachment 2-5.2 instead of performance points, with -2.5% in lieu of 59 performance points, -5.0% in lieu of 58 performance points, and so forth.

(5) The PEB evaluates performance and assigns percentage points to each evaluation criterion as follows, using the grading table of Attachment 2-5.1:

<u>Criteria</u>	<u>Percentage Points</u>
Budget	87.5
Planning	70.0
Scheduling	62.5
Safety	25.0
Procurement	65.0
Energy Use	25.0
Site Care	-12.5

b. Computation of total weighted percentage points for each criterion:

<u>Criteria</u>	$\left[\begin{array}{c} \text{Percentage} \\ \text{Weight} \end{array} \right]$	$\times$	$\left[\begin{array}{c} \text{Percentage} \\ \text{Points} \end{array} \right]$	$=$	Weighted Percentage Points
Budget	30		87.5		26.3
Planning	50		70.0		35.0

2-574

2-5:10

<u>Criteria</u>	<u>[Percentage Weight]</u>	<u>X</u>	<u>[Percentage Points]</u>	<u>=</u>	<u>Weighted Percentage Points</u>
Scheduling	20		62.5		<u>12.5</u>
Total for Technical Management:					<u>73.8</u>
Safety	60		25.0		15.0
Procurement	40		65.0		<u>26.0</u>
Total for General Management:					<u>41.0</u>
Energy Use	70		25.0		17.5
Site Care	30		-12.5		<u>-3.8</u>
Total for Support Services:					<u>13.7</u>

c. Computation of total weighted percentage points for all performance areas:

<u>Area</u>	<u>[Percentage Weight]</u>	<u>X</u>	<u>[Percentage Points]</u>	<u>=</u>	<u>Weighted Percentage Points</u>
Technical Management	50		73.8		36.9
General Management	30		41.0		12.3
Support Services	20		13.7		<u>2.7</u>
Total for All Areas:					<u>51.9</u>

d. Award fee earned: \$103,800 (51.9% of \$200,000).

2-5:11

ATTACHMENT 2-5.1

GRADING TABLE ILLUSTRATION

Grading Table

<u>Symbolic Grade</u>	<u>Description</u>	<u>Range of Performance Points</u>
A	Performance exceeds standard by a substantial margin; with few elements for improvement, all of which are minor.	96 - 100
B	Performance exceeds standard; and, although there may be several elements for improvement, these are more than offset by better performance in other elements.	86 - 95
C	Performance is standard; and elements for improvement are approximately offset by better performance in other elements.	76 - 85*
D	Performance is less than standard; and, although there are elements of standard-or-better performance, these are more than offset by lower graded performance in other elements.	66 - 75
E	Performance is less than standard by a substantial margin; and there are many elements for improvement which are not offset by better performance in other elements.	61 - 65
F	Performance is below minimum acceptable; and is sufficiently below standard as to indicate that improvement in overall contract performance is required to avoid possible termination action.	60 and below

* A grade of 80 performance points is the numerical median between minimum acceptable of 61 and 100, and corresponds to what is normally expected of the contractor.

2-5.1

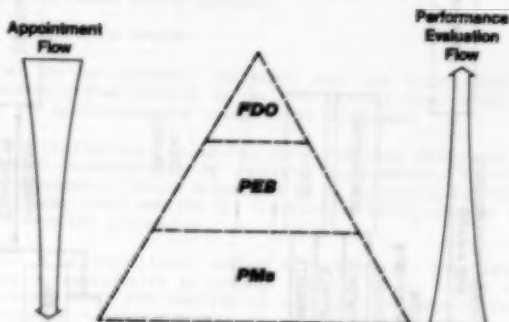
2-5:12

ATTACHMENT 2-5.2

AWARD FEE CONVERSION CHART ILLUSTRATION

<u>Award Fee Conversion Chart</u>			
<u>Performance Points</u>	<u>% of Available Award Fee</u>	<u>Performance Points</u>	<u>% of Available Award Fee</u>
100	100.0	80	30.0
99	97.5	79	47.5
98	95.0	78	45.0
97	92.5	77	42.5
96	90.0	76	40.0
95	87.5	75	37.5
94	85.0	74	35.0
93	82.5	73	32.5
92	80.0	72	30.0
91	77.5	71	27.5
90	75.0	70	25.0
89	72.5	69	22.5
88	70.0	68	20.0
87	67.5	67	17.5
86	65.0	66	15.0
85	62.5	65	12.5
84	60.0	64	10.0
83	57.5	63	7.5
82	55.0	62	5.0
81	52.5	61	2.5
		60	0.0

2-5.2

CPAF ORGANIZATIONAL PYRAMID
(Basic Three-Level Approach)

- NO SINGLE SYSTEM FITS ALL SITUATIONS EQUALLY WELL. SIZE AND COMPLEXITY OF CONTRACT MAY REQUIRE ONE OR TWO ADDITIONAL LEVELS. ACTIVITY NOMENCLATURE FOR LEVELS MAY VARY (I.e., INSTEAD OF PERFORMANCE EVALUATION BOARD (PEB), THE TERM INCENTIVE CONTRACTING COMMITTEE (ICC) MIGHT BE USED; IF NECESSARY, THERE MAY BE A LEVEL OF FUNCTION MONITORS (FMs) BETWEEN PERFORMANCE MONITORS (PMs) AND A PEB).
- THE KEY IS TO TAILOR CPAF ADMINISTRATION TO FIT THE NEED FOR TIMELY PERFORMANCE DATA IN ORDER TO EVALUATE AND ASSESS CONTRACTOR PERFORMANCE FAIRLY AND PROMPTLY.

Figure 10

ORGANIZATIONAL STRUCTURE — TAILORING IS THE KEY *(An Actual CPAF Review and Evaluation Structure)*

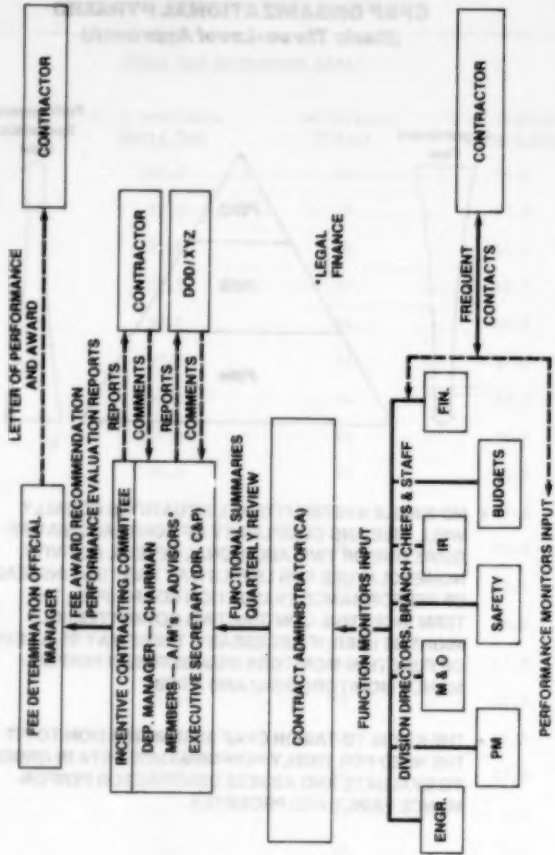


Figure 11

CHAPTER 2-6 ORGANIZATION AND ADMINISTRATION

A. INTRODUCTION

This chapter discusses the organization and administration of an on-going CPAF effort, who should be involved, and how the award fee determination system should operate.

1. INTEGRITY OF SYSTEM

a. It is extremely important that the established award fee determination system covered in the AFDP contain appropriate checks and balances for maintaining its integrity at all times.

b. Monitoring, assessing and reporting should be performed by personnel knowledgeable of contract requirements, and the results of their assessments should be subject to an evaluation by officials at a high management level who are not involved in daily, on-line operational interface with the contractor.

c. A multiple-level system of evaluation, plus affording the contractor an opportunity to present matters in its behalf to the FDO, should assure both the contractor and the Government that informed and reasonable judgments have been made in determining the award fee earned.

2. SELECTING SYSTEM

a. No single system of organization and administration will fit all situations equally well. There are, however, advantages in applying uniform policies, procedures and practices, when possible, without losing the flexibility needed by individual procuring activity organizations to meet the requirements of varying contract and procurement situations. This chapter deals first with the most basic three-level organizational structure that is employed [i.e., Fee Determination Official (FDO), Performance Evaluation Board (PEB), and Performance Monitor (PM)] and how it should function. It deals thereafter with how the basic system may be expanded to include a Function Monitor (FM) level, a Performance Evaluation Committee (PEC) level, or both, whenever justified by the dollar value and complexity of the contract.

b. As mentioned in 2-2C, the contract administration system and the performance evaluation requirements are interrelated and should be considered jointly when preparing the AFDP. Appropriate planning can then be undertaken to accomplish the objectives covered in 2-2C2.

c. In short, the system adopted for administering any CPAF contract should be fair, equitable and timely. It should not create or impose administrative burdens disproportionate to the value and complexity of the contract.

3. KEEPING AFDP FUNCTIONS SEPARATE

a. It is important for all procuring activity and contractor personnel to recognize the special nature of the organization for administering the award fee provisions of a contract. Personnel assigned to activities of award fee administration are usually acting in capacities outside of their regular functional responsibilities.

b. For example, if the FDO also is head of the procuring activity, then this person clearly is vested with at least two identifiable responsibilities -- one generic to the overall procuring activity and the other specific to CPAF contract administration. Perspectives gleaned from either role may be helpful in meeting the responsibilities of the other, but care should be taken to maintain their separateness. In this connection, it is important that the AFDP and contract do not specify that the Contracting Officer is the FDO, or that the FDO is the Contracting Officer. While one person may represent both functions, each is discrete from the other and requires separate and definable actions during the period of contract performance. Any reference to the contrary, or allusion to FDO and Contracting Officer responsibilities as being the same, is improper. Because of this, each function should be spelled out separately in the AFDP and contract.

c. Personnel serving as performance evaluators or monitors should maintain a clear distinction between their regular functional responsibilities and those required of them as members of the CPAF administration team. When communicating with contractor personnel about performance, or when conveying assessment information as a baseline for possible performance improvement, it is important that Government personnel do not instruct, direct, supervise or attempt to control contractor efforts, for even the best of intentions may lead to assumptions about changes in contract scope or the requirement for additional work. Appraisal, assessment and measurement connote evaluation, not direction.

B. ORGANIZATIONAL STRUCTURE

1. FEE DETERMINATION OFFICIAL (FDO)

a. CPAF contracting requires that there will be a FDO and that this person will be an individual who is organizationally above the persons who are involved directly in performance evaluation.

b. Keep in mind that the FDO must be a person who is organizationally above the PEB Chairman and other members and at a management level high enough to assure the kind of attention and objectivity that will preserve the integrity of the evaluation process.

c. Contractor readiness to accept and react to award fee determinations in a constructive manner is dependent on the firm belief that evaluation procedures are fair and serve to protect the performer against

arbitrary or capricious determinations. The motivation to perform under a CPAF contract is enhanced to the extent that the award fee determination process is not only portrayed as fair, but demonstrates its integrity in practice. This includes awareness that award fee determinations will be made at a level that assures the kind of management attention and objectivity the contractor believes is consistent with its stake in determination outcomes. If the contractor doubts that this is so, then the use of the CPAF contract as an effective management tool may be jeopardized.

d. The FDO should be designated in the contract by appropriate procuring activity position title instead of by name. This will assure the contractor that award fee determinations will not be made at a lower management level than has been agreed to and will eliminate the need to modify the contract and the AFDP whenever there is a change of an incumbent FDO. It also permits a person authorized by delegation to use the position title to perform FDO functions during the incumbent's absence.

e. The primary responsibilities of the FDO should be:

- Determining the award fee earned and payable for each evaluation period.
- Changing the matters covered in the AFDP, as appropriate.

2. PERFORMANCE EVALUATION BOARD (PEB)

a. This board will be established to evaluate contractor performance (based on monitor reports, contractor inputs and other information) and to recommend the amount of award fee to the FDO.

b. The PEB is intended to bring to the evaluation process a broader management perspective than exists at the level of Performance Monitors (PMs). Accordingly, the PEB should be comprised of relatively high management personnel.

c. In view of their importance to the evaluation process, PEB members should be appointed by the head of the procuring activity or, if appointed by other authority, their appointments should be cleared with the head of the procuring activity. If the AFDP covers the PEB, as it should, and if the AFDP is approved by the head of the procuring activity as suggested in 2-2C, this will be accomplished automatically.

d. The AFDP should identify each PEB member by procuring activity position title and indicate the primary responsibilities of the Board, such as:

- Conducting ongoing evaluations of contractor performance and, based on Performance Monitor Reports (PMRs) and performance information obtained from the contractor and other sources, submitting a PEB

2-614

Report (PEBR) to the FDO covering the Board's findings and recommendations for each evaluation period.

- Recommending appropriate changes in the applicable AFDP for consideration and approval by the FDO.

e. The membership of the Board should be based on the nature, dollar value and complexity of the procurement. The individuals responsible for the primary technical and business functions (e.g., program, contracting, legal and financial) associated with the contract should be familiar with the performance areas involved and, therefore, are appropriate candidates for membership. It is important that PEB members be able to devote enough time to their respective assignments to perform thorough and prompt evaluations.

f. Some procuring activities have found it advantageous to establish a permanent PEB, generally consisting of from three to six members. This permanent Board is then augmented for each CPAF contract by additional ad hoc members with backgrounds particularly suited for evaluating the type of work involved. The objective is to assure that the Board performs consistently from one contract to another and always has available to it those skills necessary to make fair judgments.

g. The official responsible for appointing Board members should designate a member to be the Chairman. The functions of the Chairman should include:

- Calling Board meetings, controlling attendance and chairing the meetings.
- Recommending the appointment of non-voting members to assist the Board in performing its functions.
- Requesting and obtaining performance information from other units or personnel normally involved in observing contractor performance.
- Calling on personnel from various organizational units to consult with the Chairman and Board members.
- Appointing Performance Monitors (PMs) for the contract and seeing that PMs are furnished appropriate instructions and guidance.
- Being responsible for the preparation and approval of the Board's PEBR and other documents such as minutes of meetings.

h. The FDO should not be the PEB Chairman. Although this practice might eliminate some procedural steps and related documentation, the integrity of the award fee determination system and process might be

2-6:3

compromised by removing one of the essential checks and balances mentioned previously.

3. PERFORMANCE MONITORS (PMs)

a. Individuals will be designated as Performance Monitors and will be responsible for monitoring, assessing and evaluating contractor performance in light of established evaluation criteria.

b. The AFDP should indicate that the PEB Chairman will assign one or more PMs for each performance area to be evaluated, and that the Chairman may change these assignments at any time without advance notice to the contractor. PMs should be selected on the basis of their expertise relative to prescribed performance area emphases. PM administration probably will be in addition to, or an extension of, regular responsibilities. Each PM should be identified by procuring activity position title instead of by name. Once made, the PEB Chairman should notify the contractor promptly of all PM assignments.

c. The AFDP should identify the primary responsibilities of PMs, such as:

- Monitoring and assessing contractor performance in assigned areas.
- Preparing PMRs for the PEB.
- Recommending appropriate changes in the AFDP for consideration by the PEB.

4. FUNCTION MONITORS (FMs), WHEN APPLICABLE

a. The purpose of the Function Monitor (FM) level is to provide centralized direction to the various PMs for carrying out their assigned efforts and to consolidate the findings of the PMs for consideration by the PEB or PEC, as applicable.

b. This level may be appropriate whenever a relatively large number of PMs are necessary. When appropriate, it should be covered in the AFDP. The AFDP should authorize the PEB Chairman to appoint an FM for each of the broad functional areas to be evaluated. The FMs should be individuals having responsibility for the major activities in those functional areas to be included for performance evaluation. Each FM appointed should be identified by procuring activity position title instead of by name. The AFDP should permit the PEB Chairman to change the FM appointments at any time without advance notice to the contractor. The PEB Chairman should keep the contractor informed of all FM appointments.

c. The AFDP should identify the primary responsibilities of FMs, such as:

2-6:6

- Interpreting and implementing performance evaluation factors applicable to specified functional areas.
- Furnishing instructions to PMs.
- Coordinating, compiling and analyzing data submitted by PMs.
- Notifying the contractor immediately whenever a problem is identified that requires performer attention, resolution or correction.
- Consolidating data and preparing concisely written Function Monitor Reports (FMRs) for presentation to the PEB or PEC, as applicable, covering the evaluation of contractor performance during given evaluation periods.

5. PERFORMANCE EVALUATION COMMITTEE (PEC), WHEN APPLICABLE

a. The purpose of the Performance Evaluation Committee (PEC) level is to relieve the PEB of much of the detailed preparatory work required for evaluation of contractor performance and to fill what could be a significant gap in the evaluation process between a high level PEB and working level PMs.

b. When this level is appropriate, it should be covered in the AFDP. The AFDP should authorize the PEB Chairman to appoint the PEC members. If appropriate, PEB members may serve on the PEC. Each PEC member should be identified by procuring activity position title instead of by name. The PEB Chairman should also designate a PEC Chairman. The PEB Chairman should keep the contractor informed of all PEC appointments.

c. The AFDP should indicate the principal responsibilities and functions of the PEC, such as:

- Meeting monthly and performing detailed examinations and evaluations of FMRs and PMRs, as well as performance information obtained from other organizational elements or personnel.
- Meeting periodically with the contractor to discuss its overall performance.
- Promptly after the end of each evaluation period, submitting a PEC Report (PECR) to the PEB covering findings and recommendations, including a summary of the results of PEC monthly (or other periodic) meetings with the contractor.

2-6:7

C. METHOD FOR DETERMINING AWARD FEE EARNED

1. The AFDP should describe the method for evaluating contractor performance during each period and for determining the award fee earned. The steps in the process, as well as the procedures involved, must be understood by all persons having responsibility for assessment and evaluation of contractor performance, the reporting of results and the determination of award fee earned.

2. To a considerable extent, the method used will depend on the organizational structure covered in the AFDP. As will be noted when reading Appendix 2.1, the organizational structure in Part B of the appendix and the method stated in Part D reflects the basic three-level system -- FDO, PEB and FM. Attachment D-1 of Appendix 2.1 summarizes the actions involved when the three-level system is used.

3. Some guidance concerning the actions in determining award fees will be found in Attachment 2-6.1 located at the end of this Chapter 2-6. In Part A of Attachment 2-6.1, comment is made on each of the actions involved when the three-level system is used. In Part B of Attachment 2-6.1, an indication is provided of the differing actions that should be considered if the FM level, but not the PEC level, is added. Similarly, in Part C, the addition of the PEC level is addressed, but without including the FM level. Finally, in Part D, there is coverage of the differences if both PEC and FM levels are added.

4. After completing the evaluation method for inclusion in the AFDP, the principal actions involved should be summarized and schedules established for their completion in a manner similar to Attachment D-1 of Appendix 2.1.

D. METHOD FOR CHANGING AFDP COVERAGE

1. An important advantage of CPAF contracting is that the AFDP may be adjusted unilaterally during the life of the contract. It is vital that as a part of the contract negotiation process the Government should obtain agreement and incorporate into the contract a provision that the Government can change the AFDP unilaterally after reasonable advance notice to the contractor, and that the specific number of work or calendar days constituting reasonable notice should be agreed to in advance by the parties.

2. Procuring activity personnel involved in the administration of the award fee provisions of a contract should be encouraged to recommend changes in the AFDP with a view toward changing management emphases, motivating higher performance levels, or improving the award fee determination process. The contractor also should be permitted to recommend appropriate changes.

3. The AFDP should include the method for changing plan coverage along the lines indicated in Part E of Appendix 2.1.

2-6D3

2-6:8

4. The effective evaluation period to which any change applies should be indicated on each document covering a change.

E. INSTRUCTIONS AND GUIDANCE FOR PERFORMANCE MONITORS (PMs)

1. GENERAL

a. The award fee determination process is triggered to a considerable extent by PM actions. It is important that these monitors be given a meaningful orientation, appropriate instructions and clear guidance before they begin undertaking any evaluation activities.

b. As indicated in 2-6B, the PEB Chairman (or PM, if appropriate) should be responsible for seeing that each PM receives an orientation, instructions and guidance.

2. ORIENTATION

a. The orientation process consists of two steps. The first step should provide each PM with the following documents for review and studied examination:

- A copy of this Part II of the Types of Contracts and Agreements Guide.
- A copy of the award fee provisions of the contract.
- A copy of the AFDP, which should include general instructions for PMs as indicated in Appendix 2.1.
- A copy of specific instructions applicable to PM-assigned areas of evaluation cognizance.

b. The second step, which should be completed before contract work begins, calls for a meeting of PMs (together with FMs, PEC members and PEB members, if appropriate). The PEB Chairman should conduct a discussion of the award fee determination process in general and PM functions in particular. The point of the second step is that it provides an important opportunity for a common orientation.

c. Whenever a new PM is assigned (i.e., for a new performance area to be evaluated or to replace the PM for an existing performance area), the PM should be given the documents indicated above, plus:

- Copies of all contract modifications.
- Copies of all changes in the AFDP.
- If applicable, copies of all PMRs covering the performance area(s) involved.

2-6E2

2-6:9

Then the new FM should meet with the PEB Chairman, or FM, if appropriate, for discussion and orientation along the lines indicated above.

3. GENERAL INSTRUCTIONS

a. The AFDP should include general instructions applicable to all FMs. Attachment D-2 of Appendix 2.1 identifies the kinds of matters that should be covered.

b. The method for documenting evaluation assessments, how results should be portrayed, and the importance of discussing results with contractor personnel is an important matter to be considered in preparing AFDP general instructions. Section 2-6F offers some guidance for this area.

c. AFDP general instructions should include the preparation and submission of PMRs. That is, what formats are to be used, when reports are required, and what represents the basis of useful report content. Section 2-6F addresses the PMR.

4. SPECIAL INSTRUCTIONS

a. Any instructions that may be peculiar to a particular performance area should be covered in a special issuance by the PEB Chairman for FM use. For example, there could be a specialized technique required for measuring performance that is not otherwise covered in the evaluation requirements for an area of performance effort.

b. Special instructions should be used only when it is not feasible to include these matters in the evaluation requirements considered in Chapter 2-4, or when the special instructions are required for use until the evaluation requirements are changed.

c. Copies of special instructions should be given to the contractor if they involve matters impacting its performance or the manner in which it will be assessed.

5. GUIDANCE

a. The PEB Chairman, PEC Chairman or FMs, as appropriate, should give FMs any additional guidance they may need during the evaluation period.

b. Consideration should be given to periodic meetings with all the FMs to discuss ongoing contractor performance, general problems and solutions, or whatever else may need airing among those comprising the evaluation team.

2-6E5

2-6:10

F. DOCUMENTATION AND REPORTS

1. GENERAL

a. Documentation of the award fee determination process suggested in 2-6C starts with the PM records of monitoring and assessment and ends with the FDO's determination of award fee earned and payment of the contractor's voucher. In between these actions, there are several reports that may be submitted depending on the organizational structure employed for the award fee determination process. Each report serves as a kind of data base for an emerging evaluation scenario.

b. Since the award fee to be paid is a judgmental decision by the FDO, it is important that this decision be supported by reasonable and pertinent evaluation documentation. Likewise, it is important that the FDO assert the basis for this decision in the Award Fee Determination Report (AFDR) submitted to the contractor.

c. This section furnishes guidance for use in preparing evaluation reports and supporting documentation. It starts in 2-6F2 by considering the documentation for PM assessments and then proceeds to consider reports that should be submitted by various organizational levels associated with the award fee determination process.

d. Before dealing with specifics, the following are matters of a general nature that should be kept in mind:

(1) Evaluation and assessment report formats should be structured to insure clarity and conciseness. To the extent feasible, consistency should be achieved by using the same or similar formats for related activities.

(2) Reports and other documentation should place emphasis on quality not quantity. Brevity through the use of well-chosen words and terms always should be the standard.

(3) While references to supporting documents are appropriate, avoid duplicating or paraphrasing matters contained in them. If necessary, attach copies instead, and make reference to the data involved.

(4) At minimum, each evaluation or assessment report should reflect the following identifying information:

- Title of report (i.e., PMR, FMR, PEER, or whatever).
- Contract number and contractor.
- Period covered by report.
- Signature, procuring activity position title of the person signing the report, and the date signed.

2-6F1

2-6:11

- The number, title, and so forth of each attachment to the report.

2. DOCUMENTING PM EVALUATION/ASSESSMENT RESULTS

General instructions for PMs should cover the method for conducting evaluations and assessments and documenting their results. The documentation should cover such matters as:

- The performance area involved.
- The period covered by the evaluation or assessment.
- What matters were evaluated or assessed.
- The results of the evaluation or assessment.
- Discussions of the results with the contractor (i.e., who, when, what was discussed, contractor reactions and comments, and PM conclusions from the discussion).

3. PERFORMANCE MONITOR REPORT (PMR)

a. General instructions for PMs should be explicit regarding the preparation and submission of PMRs in terms of formats or forms to use, when reports are required, and what represents the basis of useful report content.

b. The PMR should identify the performance area involved and consist of declarative statements covering such matters as:

- A summary of the evaluation or assessment results in accordance with 2-6F2, including the performance levels achieved during the reporting period.
- The circumstances under which the reported performance levels were achieved, especially if the circumstances were in any way abnormal or reflected on contractor efficiency in managing assigned personnel and other resources.
- Any actions taken by the contractor to correct deficiencies included in previous PMRs.

c. Copies of evaluation or assessment documentation should be attached to the PMR.

2-6F3

2-6:12

4. PERFORMANCE EVALUATION BOARD REPORT (PEBR)

a. PEBR contents should consider such matters as:

- Recommended range of dollars in which the award fee should fall.
- Performance points assigned by the PEB to each performance area and evaluation criterion, if applicable.
- Bases for the performance points assigned.
- Computation of total award fee amount as addressed in 2-5F.
- Rationale for selecting recommended award fee range.

b. Documents attached to the PEBR should include:

- (1) All FMRs for the period.
- (2) All FMRs for the period, if applicable.
- (3) The PEGR, if applicable.
- (4) All other performance information obtained during the period which influenced the Board's findings and recommendations.
- (5) Minutes of the PEB meeting during which the preliminary findings and position were established for discussion with the contractor. These should reflect the Board's preliminary findings and award fee position concerning the matters outlined in 4a, above.
- (6) Minutes of PEB meeting with the contractor during which the Board's preliminary findings and position regarding performance levels achieved were discussed, along with all matters presented by the contractor for consideration by the Board.
- (7) Minutes of PEB meeting during which the findings and recommendations covered in 4a, above, were drawn. These should reflect consideration given to any contractor presentation and the PEB's rationale for any changes in its preliminary findings and position.
- (8) Minutes of PEB meetings with PMs and others to discuss their reports, including the basis for all differences between the Board's position and those covered in the FMRs, FMRs and PEGR, if applicable.
- (9) Minutes of interim PEB meetings with the contractor.

2-6F4

2-6:13

3. AWARD FEE DETERMINATION REPORT (AFDR)

a. The AFDR should state the award fee earned and the bases for the FDO's determination.

b. The FDO should see that the following documents are prepared, as applicable:

- Minutes of any meeting during which the contractor presented matters for consideration by the FDO.
- The FDO's rationale for any differences between FDO findings or award fee position and those included in the PEER.

6. FUNCTION MONITOR REPORT (FMR), IF APPLICABLE

a. The FMR should identify the functional performance area involved and include such matters as:

- A summary of the findings and positions in FMRs.
- The FM's analysis of FMRs and conclusions drawn from them.
- Bases for the FM's conclusions.
- The FM's rationale for any differences between FM findings and those included in FMRs.

b. The documents attached to the FMR should include:

- All FMRs.
- Minutes of meetings between the FM and FMs.
- Minutes of any meetings between the FM and the contractor.

7. PERFORMANCE EVALUATION COMMITTEE REPORT (PECR), IF APPLICABLE

a. PECR contents should consider such matters as:

- Performance points assigned by the PEC to each performance area and evaluation criterion, if applicable.
- Bases for performance points assigned.

2-6:14

b. The documents attached to the PECE should include:

- All PMRs.
- All PMRs, if applicable.
- All other performance information obtained during the period that influenced the Committee's findings and recommendations.
- Minutes of PEC meetings with the contractor during the evaluation period.
- Minutes of PEC meetings with FMs and PMs, if applicable.

2-6F7

2-6:15

ATTACHMENT 2-6.1

GUIDELINES CONCERNING ACTIONS IN DETERMINING AWARD FEES

A. PDO, PEB AND PM LEVELS

The following comments offer guidance concerning the actions involved in determining award fees when the three-level organizational structure is used, as summarized in Attachment D-1 of Appendix 2.1.

1. PEB CHAIRMAN APPOINTS PMs AND INFORMS CONTRACTOR

If necessary, PM assignments will change whenever the areas to be evaluated change. See 2-6B3.

2. PMs FURNISHED ORIENTATION AND GUIDANCE

See 2-6E for guidance.

3. PMs ASSESS PERFORMANCE AND DISCUSS RESULTS WITH CONTRACTOR

The AFDF should indicate the method to be followed by PMs in monitoring and assessing contractor performance. These matters are discussed in 2-6E.

4. PMs SUBMIT PMRs TO PEB

In part, the instructions given PMs should articulate reporting requirements. Section 2-6F provides guidance about PMRs.

5. PEB OBTAINS PERFORMANCE INFORMATION FROM OTHER PROCURING ACTIVITY PERSONNEL

The PEB should obtain any data readily available in the procuring activity organization that could have a bearing on contractor performance.

6. PEB CONSIDERS PMRs AND OTHER INFORMATION OBTAINED

a. You will note that Part D of Appendix 2.1 does not mention that self-appraisal reports should be obtained from contractors. It is suggested that such reports may be unnecessary and might tend toward increasing the paperwork involved in the evaluation process. Data readily available from the contractor's internal reporting system could be useful, however, and should be obtained as appropriate. If self-appraisal reports or other data are obtained from the contractor, they should be considered in this step.

b. During this step, the PEB should discuss any PMRs with the PM community whenever questions arise about PM assessments. For example, a contractor's shortcoming identified in a PMR may have been occasioned

2-6.1A6

2-6:16

by Government influences and decisions to which the contractor responded at the expense of certain aspects of otherwise prescribed contract work. Because of the organizational level of its members, the PEB should be in a better position than a PM to consider the contractor's response and its effect on contract performance.

7. PEB DISCUSSES OVERALL PERFORMANCE WITH CONTRACTOR DURING PERIOD

As this step indicates, the PEB should meet with the contractor for frank and open discussion concerning performance during the evaluation period, rather than waiting until the period is over when it may be too late for discussion to have any bearing on the award fee earned. The meeting should be attended by appropriate contractor personnel.

8. PEB MEETS AND SUMMARIZES PRELIMINARY FINDINGS AND POSITION

In this step, PEB preliminary findings and position should lay the groundwork for discussions with the contractor in Step 9 and for establishing the PEB position in Step 10. In fact, the meetings addressed in Steps 8, 9, and 10 should be scheduled at one session of the Board.

9. PEB MEETS WITH CONTRACTOR AND DISCUSSES PRELIMINARY FINDINGS AND POSITION

a. After the Board reaches its preliminary position in Step 8, it then should meet with contractor top-management personnel and provide a summary of its preliminary findings and position regarding the performance levels achieved in the various areas evaluated. This affords the contractor an opportunity to present any matters that it feels should be considered by the PEB before the Board presents its findings and recommendations to the FDO. One objective of the meeting is to discuss the performance levels achieved. The meeting is not held "to negotiate," or to give the appearance of negotiating, the amount of award fee earned. The PEBs range of award fee earned or its computations using any quantifying devices should not be divulged to the contractor.

b. As is suggested in 2-7D, the conference approach should be more effective than the practice of submitting a written PEB report to the contractor for its written comments. The conference approach eliminates the administrative time and effort required for the PEB to prepare a written report, the contractor to prepare a written reply, the PEB to meet and consider the reply, and, in all probability, to meet with the contractor to discuss any differences.

c. Before the conference is concluded, the contractor should be assured that all matters it presented at the meeting will be taken into account by the PEB in arriving at its findings and recommendations for the FDO. Then, the contractor should be asked if it desires to present any matters to the FDO. If appropriate to do so, the PEB Chairman should arrange for such a conference.

2-6.1A9

2-6:17

10. PEB ESTABLISHES FINDINGS AND RECOMMENDATIONS FOR PEBR

After the conference with the contractor in Step 9, the PEB should consider contractor input and, if appropriate, modify its preliminary findings and recommendations accordingly.

11. PEB CHAIRMAN SUBMITS PEBR TO FDO

The matters to be considered for the PEBR are addressed in 2-6F.

12. FDO CONSIDERS PEBR AND DISCUSSES IT WITH PEB, AS APPROPRIATE

The FDO should consider any facts or circumstances of which the PEB is aware that are not covered in the PEBR.

13. FDO SENDS AFDR TO CONTRACTOR

The FDO's determination may or may not be in accord with the PEB's position. Section 2-6F addresses the Award Fee Determination Report.

B. FDO, PEB, FM AND PM LEVELS

The following comments reflect the differences in the steps in Part A, above, when the FM level is added.

1. PEB CHAIRMAN APPOINTS FMs AND PMs AND NOTIFIES CONTRACTOR

The PEB Chairman should control or concur in all appointments below the Board level. See 2-6B3 and 2-6B4.

2. FMs AND PMs FURNISHED ORIENTATION AND GUIDANCE

The PEB Chairman should see that FMs are furnished appropriate instructions and guidance, and that they, in turn, furnish appropriate instructions and guidance to PMs. See 2-6E for guidance.

3. FMs ASSESS PERFORMANCE AND DISCUSS RESULTS WITH CONTRACTOR

The AFDP should indicate the method to be followed by FMs in monitoring and assessing contractor performance. These matters are discussed in 2-6E.

4. FMs SUBMIT PMRs TO FMs

This step is the same as in A4, above, except that FMs submit their PMRs and make verbal presentations to their respective FMs.

2-6.184

2-6:18

4.1. FMs CONSOLIDATE AND ANALYZE FMRs AND SUBMIT FMRs TO PEB

An additional step should be included indicating that FMs consolidate and analyze the FMRs and other data and submit concise monthly FMRs to the PEB. (See 2-6B4 for guidance.) Section 2-6F addresses the FMR. This step should be completed promptly after the end of each month.

5. PEB OBTAINS PERFORMANCE INFORMATION FROM OTHER PROCURING ACTIVITY PERSONNEL

The PEB should obtain any data readily available in the procuring activity organization that could have a bearing on contractor performance.

6. PEB CONSIDERS FMRs AND OTHER INFORMATION OBTAINED

In addition to the matters addressed in A6, above, this step should indicate that the PEB considers the FMRs obtained in Step 4.1 and discusses them with the FMs as appropriate.

Steps 7 through 13 are the same as in Part A, above.

C. FDO, PEB, PEC AND FM LEVELS

The following reflects the differences in the steps in Part A, above, when the PEC level is added.

1. PEB CHAIRMAN APPOINTS FMs AND INFORMS CONTRACTOR

Step 1 should indicate that the PEB Chairman appoints the FMs. The PEB Chairman should control or concur in all appointments below the Board level. See 2-6B3.

1.1. PEB CHAIRMAN APPOINTS PEC CHAIRMAN AND MEMBERS AND INFORMS CONTRACTOR

An additional step should be included to cover the appointment of the PEC. See 2-6B5 for guidance.

2. FMs FURNISHED ORIENTATION AND GUIDANCE

The PEB Chairman should see that the FMs are furnished appropriate instructions and guidance. See 2-6E for guidance.

3. FMs ASSESS PERFORMANCE AND DISCUSS RESULTS WITH CONTRACTOR

The AFDP should indicate the method to be followed by FMs in monitoring and assessing contractor performance. These matters are discussed in 2-6E.

2-6.1C3

2-6:19

4. FMs SUBMIT FMRs TO PEC

This is the same as in A4, above, except that FMs submit their FMRs and make verbal presentations to the PEC instead of the FEB.

5. PEC OBTAINS PERFORMANCE INFORMATION FROM OTHER PROCURING ACTIVITY PERSONNEL

The PEC Chairman should request and obtain performance information from other organizational units or personnel.

6. PEC CONSIDERS FMRs AND OTHER INFORMATION OBTAINED

This is the same as in A6, above, except that the PEC should consider FMRs and other performance information.

7. PEC DISCUSSES OVERALL PERFORMANCE WITH CONTRACTOR DURING PERIOD

The PEC should meet with the contractor and discuss its overall performance as in the case of the FEB in A7, above.

7.1. PEC SUBMITS PECR TO FEB

A new step should be added covering the preparation of the PECR and its prompt submission to the FEB after the end of each evaluation period. Section 2-6F addresses the PECR.

Steps 8 through 13 are the same as in Part A, above.

D. FBO, FEB, PEC, FM AND PM LEVELS

The following comments reflect the differences in the steps in Part A, above, when both the PEC and the FM levels are added.

1. FEB CHAIRMAN APPOINTS FMs AND PMs AND INFORMS CONTRACTOR

Step 1 should indicate that the FEB Chairman appoints the FMs as well as the PMs. The FEB Chairman should control or concur in all appointments below the Board level. See 2-6B3 and 2-6B4.

1.1. FEB CHAIRMAN APPOINTS PEC CHAIRMAN AND PEC MEMBERS AND INFORMS CONTRACTOR

A new step should be added to cover the appointment of the PEC. See 2-6B5.

2. FMs AND PMs FURNISHED ORIENTATION AND GUIDANCE

The PEC Chairman should see that FMs are furnished appropriate instructions and guidance, and that they, in turn, furnish appropriate instructions and guidance to PMs. See 2-6E for guidance.

2-6.1D2

2-6:20

3. PMs ASSESS PERFORMANCE AND DISCUSS RESULTS WITH CONTRACTOR

The AFDP should indicate the method to be followed by PMs in monitoring and assessing contractor performance. These matters are discussed in 2-6E.

4. PMs SUBMIT PMRs TO PMs

This is the same as in A4, above, except that PMs submit their PMRs and make verbal presentations to their respective PMs.

4.1. PMs SUBMIT PMRs TO PEC

An additional step should be included indicating that PMs consolidate and analyze the PMRs and other data and submit concise monthly PMRs to the PEC. (See 2-6B4 for guidance.) Section 2-6F addresses the PMR. This step should be completed promptly after the end of each month.

5. PEC OBTAINS PERFORMANCE INFORMATION FROM OTHER PROCURING ACTIVITY PERSONNEL

The PEC Chairman should request and obtain performance information from other organizational units or personnel.

6. PEC CONSIDERS PMRs AND OTHER INFORMATION OBTAINED

This is the same as in A6, above, except that the PEC should consider PMRs and other performance information.

7. PEC DISCUSSES OVERALL PERFORMANCE WITH CONTRACTOR DURING PERIOD

The PEC should meet with the contractor and discuss its overall performance as in the case of the PEB in A7, above.

7.1. PEC SUBMITS PEER TO PEB

A new step should be added covering the preparation of the PEER and its prompt submission to the PEB at the end of each evaluation period. Section 2-6F addresses the PEER.

Steps 8 through 13 are the same as in Part A, above.

CHAPTER 2-7 CONTRACTOR PARTICIPATION

**THE CONTRACTOR:**

- SHOULD BE FURNISHED WITH THE RESULTS OF EVALUATION FINDINGS FOR COMMENT.
- MAY BE ASKED TO PROVIDE AN ASSESSMENT OF ITS PERFORMANCE.
- SHOULD BE GIVEN AN OPPORTUNITY TO PRESENT MATTERS TO THE PEB OR FDO IN ITS OWN BEHALF.

Figure 12

**SHAPING AN ENVIRONMENT FOR
COMMUNICATION AND PARTICIPATION**
(A Checklist of Considerations)

- WHAT DAY-TO-DAY INFORMAL COMMUNICATION AND INTERCHANGE CAN BE ENCOURAGED TO THE ADVANTAGE OF PERFORMANCE?
- ARE FORMAL COMMUNICATION CHANNELS APPROPRIATE FOR IDENTIFICATION IN THE AWARD FEE DETERMINATION PLAN?
- SHOULD THE CONTRACT INCLUDE A PROVISION REQUIRING THE PERIODIC SUBMISSION OF WRITTEN SELF-APPRAISALS? OR WILL PERIODIC CONFERENCE MEETINGS BE MORE BENEFICIAL?
- WILL ESTABLISHED LEVELS OF COMMUNICATION PERMIT DECISIONS TO BE MADE THAT WILL LEAD TO PERFORMANCE RESULTS?
- DO THOSE INVOLVED IN PERFORMANCE EVALUATION UNDERSTAND THAT COMMUNICATION AND PARTICIPATION SHOULD REINFORCE ESTABLISHED CONTRACT REQUIREMENTS, NOT REPRESENT OCCASIONS FOR NEGOTIATING NEW ONES?

Figure 13

CHAPTER 2-7 CONTRACTOR PARTICIPATION

A. INTRODUCTION

1. Contractor participation in the award fee determination process, along with requisite communications between the Government and contractor, starts with the RFP and continues through the negotiation of a contract, the preparation of the AFDP, and the administration of the contract.

2. This chapter stresses the importance of contractor participation and provides some guidance for assuring its effectiveness.

B. IMPORTANCE OF COMMUNICATIONS

1. An important benefit of using a CPAF contract is that it provides a basis for effective communications among Government and contractor personnel at management levels where decisions can be made and results achieved. The types of communication made possible through the award fee determination process foster a discipline of participation that often is difficult to achieve in other contractual environments.

2. In addition to formal communication channels identified in the AFDP, the less formal day-to-day discussions among parties go a long way toward assuring ultimate program success. In the award fee environment, contractor program managers and supervisors should never be viewed as remote and uninvolved. In a very real sense, they are direct participants in the award fee determination process.

3. Improvements in performance management should result from the effects of day-to-day monitoring and assessments by PMs, the interim reviews at the PES/PEC levels, end-of-period discussions with the PES, and the continuing dialogue among procuring activity and contractor personnel at higher management levels.

4. While the award fee features included in the contract and covered in the AFDP are critical, none of them guarantees successful contract administration in the absence of effective communications. Any award fee determination is unlikely to have a positive influence on future performance levels if the contractor does not understand the "whys and wherefores" supporting it.

5. Frequent and honest communications are essential, both within the procuring activity and among procuring activity and contractor personnel.

C. PREPARATION OF AFDP

1. Since the AFDP articulates the plans and means for monitoring, assessing and evaluating performance as a basis for determining any

2-7:2

award fee earned, the contractor should have an opportunity to contribute to its development.

2. As indicated in 2-2D, a pro forma AFDP should be developed by the PEB for inclusion in the RFP. This provides prospective sources with a picture of the award fee process, how it will impact the performance of a resultant contract and, accordingly, how sources should respond when submitting proposals.

3. The RFP should encourage prospective sources to offer suggestions for improving the effectiveness of the award fee process, either during the proposal preparation period or with the submission of contractor proposals.

4. Since the AFDP and award fee features in the contract are interrelated, the proposed contractor's views concerning them should be considered during contract negotiation.

D. AWARD FEE DETERMINATION

1. GENERAL

a. Contractor participation is an important element of the checks and balances that maintain the integrity of the award fee determination process. This point is emphasized by the following:

(1) Evaluation results should be furnished to the contractor for comment on the evaluation findings.

(2) The contractor may be asked to provide an assessment of its performance.

(3) The contractor should be given an opportunity to present matters to the PEB or FDO in its own behalf.

b. The following paragraphs outline some ways in which the contractor should or may participate during the various stages of the award fee determination process.

2. PM STAGE

a. Before PMs start monitoring to perform evaluation and assessment responsibilities, the general plan for doing so might be discussed with appropriate contractor personnel. In this case, familiarity will breed confidence as well as providing knowledge.

b. After an evaluation or assessment has been made, it may be appropriate that the PM discuss the results with contractor personnel, informing contractor supervisors about any negative or positive results. In turn, contractor personnel should be able to clarify any possible

2-7D2

performance misunderstandings and present information that might be considered by the PM in reaching conclusions.

3. PEB OR PEC INTERIM STAGE

a. During each evaluation period, the PEB or PEC should meet periodically with contractor management personnel to discuss performance to date. Contractor personnel should be informed of the evaluation results to date and given an opportunity to present any data or information in its own behalf.

b. Interim meetings should permit the contractor to take appropriate and timely action, if necessary, to correct or improve performance during the remainder of the evaluation period.

c. Interim meeting minutes should be included in the documentation that will be considered during the PEB final stage indicated below.

4. PEB FINAL STAGE

a. After the end of each evaluation period, the PEB should meet with contractor top-management personnel in order to provide them with a summary of the Board's preliminary findings and position regarding the performance levels achieved. The objective of the meeting is two-fold: to elicit information from the contractor to support or explain the nature of its performance, and to acknowledge meritorious work as well as to identify performance areas requiring correction or improvement. It is not the objective of the meeting "to negotiate" the amount of award fee earned.

b. During the meeting, the contractor should be given an opportunity to respond to the PEB's findings and position and to contribute information in its own behalf.

c. The minutes of the meeting should cover the matters presented by the contractor, and the minutes should be included in the PEBR for consideration by the FDO. This should assure that the FDO's determination considers both the PEB's findings and recommendations and the contractor's position concerning the levels of performance achieved.

5. FDO STAGE

The contractor may desire to meet with the FDO and present any matters not covered during its meeting with the PEB.

6. CONTRACTOR WRITTEN INPUT

a. The contractor may present, or may be required under contract to present, written self-appraisal information for consideration before the PEB final stage. This practice may be counterproductive unless the information displays new or previously unknown data that are not readily available from the contractor's management reports.

2-714

b. It may be equally counterproductive to submit summaries of preliminary findings and positions to the contractor for its written comment and response before the award fee determination. The conference approach suggested in 2-7D4 should result in a better, more manageable understanding by the FEB and the contractor. An important benefit of the conference approach is that it eliminates the administrative effort and time required to prepare written scenarios on the one hand, as well as obviating the need for the contractor to respond in writing on the other.

E. REVISION OF AFDP

1. Although the Government may have the contractual right to change AFDP coverage unilaterally with appropriate advance notice, all proposed changes should be coordinated with the contractor before they are issued. Contractor views regarding the advisability of making a change, as well as the substance of the change, should be considered by the FEB and FDO before the change is made.

2. As indicated in 2-6D, the contractor may recommend appropriate changes in AFDP coverage with a view toward improving the effectiveness of the award fee process.

**THE PROCUREMENT PROCESS AND
CPAF CONTRACTING (I)**

*(Utilizing the Contract Formation Arena to
Establish and Confirm the Award Fee Environment)*

• REQUEST FOR PROPOSALS COVERAGE

... A REASONABLE IDENTIFICATION AND EXPLANATION OF
AWARD FEE FEATURES TO BE INCLUDED IN ANY RESULTING
CONTRACT ... A PRO FORMA AFDP.

... REQUIREMENT TO ADDRESS OR RESPOND TO SPECIFIED
AWARD FEE FEATURES IN ORDER TO PERMIT EVALUATION
OF COMPETITIVE PROPOSALS.

... PERMIT THE SUBMISSION OF ALTERNATE AWARD FEE
FEATURES TO THOSE IDENTIFIED IN THE PRO FORMA AFDP ...
ENCOURAGE INNOVATION.

• PRE-AWARD NEGOTIATION CONSIDERATIONS

... HONEST AND OPEN DISCUSSIONS CONCERNING THE
AWARD FEE DETERMINATION PROCESS, INCLUDING PER-
FORMANCE AREAS AND EVALUATION FACTORS.

... NEGOTIATION OF BASE AND AWARD FEES THAT REFLECT
PERFORMANCE REQUIREMENTS AND PROVIDE A REASON-
ABLE OPPORTUNITY TO EARN THE MAXIMUM AVAILABLE
AWARD FEE.

... A DECLARATIVE AND UNAMBIGUOUS SET OF BASIC CON-
TRACT PROVISIONS COVERING AWARD FEE FEATURES,
COMPLEMENTED BY AN AWARD FEE DETERMINATION PLAN.

Figure 14

THE PROCUREMENT PROCESS AND CPAF CONTRACTING (II)

- **PROVISIONS TO BE INCLUDED IN THE BASIC CPAF CONTRACT, ASIDE FROM THE AFDP ITSELF**

... BASE FEE, AWARD FEE; PAYMENT PROVISION FOR EACH FEE; AVAILABLE AWARD FEE FOR EACH EVALUATION PERIOD, IF IT IS TO BE SO SPECIFIED; FDO'S AUTHORITY TO DETERMINE AWARD FEE EARNED; FDO AWARD FEE DETERMINATIONS BINDING ON BOTH PARTIES AND NOT SUBJECT TO DISPUTES CLAUSE OF CONTRACT; FDO AUTHORITY TO CHANGE THE AFDP, SUBJECT TO PRESCRIBED NOTIFICATION OF CONTRACTOR, EXCEPT FOR CONDITIONS OTHERWISE SPECIFIED THAT REQUIRE BILATERAL AGREEMENT; IF APPROPRIATE, PROVISION FOR PAYMENT OF UNAWARDED AWARD FEE DURING FUTURE PERIODS AT DISCRETION OF FDO; EQUITABLE ADJUSTMENT OF BASE AND AWARD FEES IN EVENT OF CONTRACT MODIFICATIONS OR TERMINATION IN WHOLE OR IN PART; IDENTIFICATION BY REFERENCE TO APPROPRIATE AFDP.

- **REPEATING OR REFERENCING BASIC CONTRACT PROVISIONS IN THE AWARD FEE DETERMINATION PLAN**

... ONLY TO THE EXTENT OF PROVIDING CLARIFICATION OR FOR SENSIBLE CONTINUITY ... DUPLICATION, IF NECESSARY, TO ENHANCE UNDERSTANDING WHERE ABSENCE MIGHT LEAD TO CONFUSION OR UNINFORMED INTERPRETATIONS OF ROLES OR ACTIONS CONCERNING THE AWARD FEE DETERMINATION PROCESS.

Figure 15

CHAPTER 2-8 CONTRACT COVERAGE OF AWARD FEE FEATURES

A. INTRODUCTION

Contracts contain many articles and provisions that reflect a variety of purposes. This chapter provides guidance only on contract coverage of award fee features. It also discusses the coverage of these features in RFPs, the evaluation of submitted proposals in responding to them, and the negotiation of any resultant contract.

B. REQUEST FOR PROPOSALS COVERAGE

1. GENERAL

a. The RFP for a CPAF contract should include a reasonable identification and explanation of the award fee features and the award fee determination process to be included in any resultant contract. It cannot be emphasized too strongly that these factors should be given adequate time, thoughtful attention and meticulous care. The confidence with which prospective sources respond to any RFP is related directly to the clarity of its contents.

b. In addition to identifying and explaining the award fee features and the award fee determination process, the RFP must establish any criteria that will be used as the basis for proposal evaluation and source selection leading to the award of a contract. As appropriate, these criteria should include those that will be used to evaluate the responsiveness of proposals to award fee requirements.

2. PROPOSED CONTRACT COVERAGE

a. Experience indicates that a pro forma contract should be included in an RFP for a projected CPAF contract so that prospective sources will have as clear a picture as possible on which to base their proposals. Section 2-8C considers the award fee features to be included in CPAF contracts.

b. The pro forma contract included in an RFP should be as complete as possible. Unknowns, of course, have to be left open to individual offeror response (e.g., base fee and award fee to be proposed), and the RFP should indicate where and in what appropriate format these data are to be submitted.

3. AFDP

a. As indicated in 2-8C, the award fee determination process should be included in the AFDP and referenced in an awarded contract. Accordingly, a pro forma AFDP should accompany or be appended to the pro forma contract provided in the RFP package.

b. As in the case of the pro forma contract, the AFDP should be as complete as possible, recognizing that the terms and conditions of award fee features are subject to reasonable negotiation and possible alteration during the solicitation process. Where award fee features may be open to prospective contractor recommendations, then offerors should be encouraged to submit them.

4. PROPOSALS

a. Prospective sources should be required to address or respond to the award fee features of the RFP in such a manner and to such a degree that an offeror's understanding of their requirements can be determined and evaluated. Award fee features to be addressed by an offeror's proposal should include:

- (1) A proposed base fee and award fee.
- (2) Any performance evaluation requirements specifically left open in the pro forma AFDP requiring offeror response.
- (3) Any other matters in the pro forma AFDP that an offeror may find it appropriate to comment about or provide clarifying statements as to its understanding.

b. RFPs may permit the submission of alternate proposals, proposals offering performance evaluation requirements or a method for award fee determination that differ from those in the pro forma AFDP. The RFP should require that each alternate offer be stated clearly and provide a proposed base fee and award fee.

5. EVALUATION OF COMPETITIVE PROPOSALS

Since all offerors must be treated equally and given an opportunity to propose on the same basis, the RFP must indicate how the award fee features addressed in proposals will be evaluated during the proposal evaluation and source selection process. This is an important opportunity not only to identify but to highlight the award fee environment relative to other evaluation criteria specified in the RFP. Proposal evaluation criteria must be crafted carefully. They serve as the basis for determining whether or not, and to what extent, an offeror has provided information or data that meet and conform to the submission requirements of the RFP.

6. REVISION OF RFPs COVERING AWARD FEE FEATURES

a. RFPs should not be considered "sacred" or "set in concrete" to the extent that they cannot be amended for the better. Although prepared with the best of intentions, it is virtually impossible to prepare any RFP for a sizable procurement that will not be subject to the need for some clarification or additional information during the solicitation process.

2-8:3

b. In the best interest of complete understanding, prospective contractors should be encouraged to question RFP matters that are not clear to them and to request clarifying information prior to the submission of proposals.

c. Questions and the need for clarifying information submitted by prospective contractors should be discussed with them, and the RFP, if necessary, should be amended. Care must be taken in competitive procurements to be sure that the integrity of the proposal evaluation and source selection process is maintained and that amended RFPs do not contain data of a confidential or proprietary nature that may have been submitted by any offeror.

C. AWARD FEE CONTRACT COVERAGE

1. GENERAL

a. As indicated in previous chapters, the award fee determination process need not be spelled out in a contract or in an appendix to it. Rather than being placed in either of these locations, it is preferable to include it in a comprehensive AFDP that can be referenced in the contract. This practice has the following advantages:

- The contract is not cluttered with an inclusion that can be covered adequately in a separate document.
- It obviates the need to modify the contract whenever the process is changed.
- It reduces administrative problems which might arise if the basic contract contains only part of the process and the rest is found in other documents.

b. If the award fee determination process is treated separately, yet referenced in the contract, then the basic contract must cover the award fee matters as outlined below.

2. BASE FEE

a. State the amount agreed to.

b. Cover how it will be paid (i.e., equal monthly installments as it accrues, or whatever).

3. AWARD FEE

a. State the amount agreed to as the maximum award fee to be earned and, if determined to be appropriate for inclusion, the amount of award fee available at the end of each evaluation period or prescribed event.

2-8C3

2-8:4

b. Include a provision specifying that determinations of award fee earned, either in whole or part, will be made unilaterally and in writing by the FDO in accordance with the referenced AFDP.

c. Include a provision specifying that FDO determinations concerning award fee earned are binding on both parties and are not subject to appeal under the Disputes clause of the contract.

d. Include a provision for the prompt payment of award fee earned after each determination without the need for a contract modification.

e. If appropriate, include a provision that unearned award fee amounts will be accumulated and, at the discretion of the FDO, may be allocated to future periods or events.

4. EQUITABLE ADJUSTMENT OF BASE FEE AND AWARD FEE

Provide for such adjustments on account of change orders or other contract modifications that may be issued during performance.

5. TERMINATION OF CONTRACT

Include a provision that in the event of contract termination, either in whole or part, the amount of award fee available shall represent a pro rata distribution associated with evaluation period activities or events as determined by the FDO. Such determination shall be binding on both parties and not subject to appeal under the Disputes clause of the contract.

6. AFDP

a. Identify the AFDP by title and date.

b. Include a provision specifying that the FDO has the unilateral right to change AFDP coverage, except for conditions that otherwise require mutual agreement under the basic contract. The provision for changing AFDP coverage must state that the contractor shall receive notice of such change by a specified number of work or calendar days prior to the beginning of the evaluation period to which the change will apply.

7. DEFINITIONS

Include definitions of award fee terms in the contract or AFDP, as appropriate, to eliminate possible misunderstandings.

D. EVALUATING PROPOSALS

1. GENERAL

a. The award fee features addressed in a submitted proposal should provide important information about an offeror's understanding

2-8:5

of contract requirements and performance objectives. For example, the absence of recognition as to the relative importance of performance evaluation areas or evaluation criteria probably indicates a lack of understanding about contract requirements or may disclose a weakness in the offeror's capabilities. Proposed award fee features should receive careful consideration during the prenegotiation evaluation process, especially in competitive procurements where proposed features may influence the selection of the successful offeror.

b. In competitive procurements the ultimate objective of the evaluation process is to select the offeror whose proposal, price and other factors considered, is determined to be most advantageous to the Government. To do this, each offer must be evaluated in light of the RFP's requirements, including the criteria specified for proposal evaluation.

c. The following paragraphs discuss matters to consider during the evaluation of award fee features included in submitted proposals. What is discussed is relevant to both competitive and noncompetitive procurement environments.

d. The analysis of an offeror's treatment of the following matters is always subjective to some degree. It is suggested, therefore, that proposal analysis and evaluation should be performed by, or under the guidance of, the prospective FEB.

2. FEE STRUCTURE

a. By assuming that the base fee plus 50 percent of the award fee should equal total fees for standard performance (standard performance being that which can be expected from any competent contractor engaged in the same or similar work), the fee can be computed that each offeror considers reasonable for standard performance. Example:

	<u>Offerors</u>			
	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
(1) Base fee (% of estimated cost)	0.0	1.5	2.0	0.0
(2) Award fee (% of estimated cost)	9.0	7.5	7.0	10.0
(3) Total as (% total of (1)				
plus (2)]	9.0	9.0	9.0	10.0
(4) Standard performance fee %				
(base fee plus 50% of award fee)	4.5	5.25	3.5	5.0

b. The mean standard fee of all offerors, and the deviation of each from the mean, can then be computed as follows:

2-8:6

	<u>Offerors</u>				
	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>Total</u>
(1) Standard performance fee %, per above	4.50	5.25	5.50	5.00	20.25
(2) Mean standard fee % (total divided by 4)					5.0625
(3) Deviation from mean standard fee % (standard minus mean)	-0.5625	0.1875	0.4375	-0.0625	

c. By employing the use of fee percentages, the example above indicates that Offeror D is closest to the mean and may have submitted the most realistic offer. By the same token, Offeror A may have submitted the most unrealistic. A similar calculation using fee dollars could result in a different relative standing. Both percentages and dollars should be used to establish the fee structure that best fits the RFP's requirements. If you establish a fee structure objective, then the structures proposed by offerors should be measured against that objective to determine the deviation, instead of against the mean standard fee as in the example used above.

d. Experience indicates that prospective contractors do not expect to perform at a level higher than minimum acceptable and obtain only the base fee. They expect to obtain some portion of the award fee for performance that is higher than minimum acceptable. The base fee, therefore, should not be given individual consideration aside from its relationship to the award fee.

e. Likewise, the award fee or the total fees should not be considered aside from their relationship to the base fee. For instance, the computation in the example used above shows that A and C both proposed a total fee of 9 percent, that C's award fee is 2 percent less than A's, yet C would receive 1 percent more (of estimated cost) than A for the same standard performance.

3. PERFORMANCE AREAS AND EVALUATION FACTORS

a. Perhaps the most meaningful indication of a prospective contractor's understanding of specified award fee features is in the recognition they are given in a proposal. An offeror's failure to address award fee features, or failure to respond adequately to a requirement for comment about them, is cause for concern. Add to this an offeror's failure to display its approach for dealing with multiple performance areas for which evaluation criteria have been provided in the RFP, and that concern should deepen.

2-8:7

b. An offeror's response to specified performance area or evaluation criteria weights is important. For example, an offeror could provide a lucid discussion of its understanding about the relationship between performance areas and evaluation criteria, but thereafter might propose a redistribution of RFP-assigned weights in order to receive the bulk of the award fee for efforts associated only with relatively narrow, high-performance levels of activity. An offeror who is attempting to buy-in would assign a low weight to the cost area. An offeror who feels weak in technical areas would assign a high weight to business areas. Any weights proposed by offerors should be compared carefully with those that have been assigned by the procuring activity.

4. EVALUATION PERIODS

a. Since the evaluation of performance is a Government function, the number and duration of evaluation periods should be predetermined and offerors instructed to base their proposals on these periods as specified in the pro forma AFDP.

b. If an offeror submits an alternate proposal that identifies evaluation periods other than those specified in the RFP, there should be no reluctance to evaluate it.

5. DISTRIBUTION OF AWARD FEE TO EVALUATION PERIODS

a. As stated in 2-5C2, the award fee in service-type or labor-intensive contracts should be distributed in reasonable proportion to the labor effort expected to be expended during the evaluation periods.

b. If contract performance requires the successful completion of a series of critical events, the award fee should be distributed across evaluation periods in reasonable proportion to the expected occurrence of those events. A large fee amount for an earlier contract event rarely emphasizes the end-result. In fact, it may permit the contractor to receive an inordinate amount of fee for very little performance. Remember that the award fee process should provide a contractor with the motivation to perform down to the final evaluated event of the final evaluation period.

6. GRADING TABLES AND CONVERSION CHARTS

An offeror's response to quantifying devices specified in the RFP should be compared with those that have been pre-established by the procuring activity. Should an offeror propose a grading table on which the award fee for standard performance is not located at the median of the spread in performance points (or percentages) between no award fee and 100 percent award fee, then analyses of the fee structure as suggested in 2-8D2 would need to be adjusted accordingly.

2-8D6

2-8:8

E. NEGOTIATING THE CONTRACT**1. PRENEGOTIATION POSITION**

After the evaluation of proposals is completed and the prospective contractor is selected for negotiation, the pro forma AFDP should be updated for use by the contract negotiator in establishing a prenegotiation position and developing a negotiation strategy.

2. NEGOTIATION

a. The updated pro forma AFDP should be discussed with the proposed contractor to make certain that there is complete understanding about the award fee determination process.

b. The negotiations should be conducted with a view toward reaching a total agreement on the award fee features, as well as all other contract provisions, including those that will be covered in the AFDP.

c. Prospective PES members should provide assistance throughout the negotiation process as requested by the negotiator.

APPENDIX 2.1 - SAMPLE FORMAT

AWARD FEE DETERMINATION PLAN FOR

Contract No. _____ With _____ [contractor]

Contents

<u>Part</u>	<u>Page</u>
A. Introduction	2
B. Organizational Structure for Award Fee Administration .	3
C. Evaluation Requirements	5
D. Method for Determining Award Fee	6
E. Changes in Plan Coverage	8

APPROVED BY:

[signature] [date]_____
[typed name]_____
[title]

A. INTRODUCTION

1. This plan covers the administration of the award fee provisions of Contract No. _____, dated _____, with _____.

The contract was awarded after completion of negotiations in accordance with the provisions of RFP No. _____.

2. The following matters, among others, are covered in the contract:

a. The contractor is required to [very brief statement identifying scope of contract] _____.

b. The term of the contract is from _____ through _____.

c. The estimated cost of performing the contract is \$ _____.

d. The base fee is \$ _____.

e. The award fee pool is \$ _____.

f. The estimated cost, base fee and award fee pool are subject to equitable adjustments on account of changes or other contract modifications.

g. The award fee earned and payable will be determined periodically by the Fee Determination Official in accordance with this plan. The FDO is _____.

h. Award fee determinations are not subject to the Disputes clause of the contract.

i. The FDO may unilaterally change the matters in this plan, as covered in Part E and not otherwise requiring mutual agreement under the contract, providing the contractor receives notice of the changes at least _____ work (or calendar) days prior to the beginning of the evaluation period to which the changes apply.

3. The objective of the award fee provisions of the contract is to afford the contractor an opportunity to earn increased fee commensurate with the achievement of optimum performance in pursuit of contract objectives and goals. Optimum performance is not necessarily equated with the highest level of performance achievable in all incentivized areas. Rather, it represents the most favorable degree of performance obtainable considering the achievement of contract objectives in light of the contractor's most effective utilization of available resources.

U. ORGANIZATIONAL STRUCTURE FOR AWARD FEE ADMINISTRATION

The following organizational structure is established for administering the award fee provisions of the contract.

1. Fee Determination Official (FDO)

a. The FDO is _____.

b. Primary FDO responsibilities are:

(1) Determining the award fee earned and payable for each evaluation period as addressed in Part D.

(2) Changing the matters covered in this plan as addressed in Part E, as appropriate.

2. Performance Evaluation Board (PEB)

a. The Chairman of the PEB is _____.

The following are voting members:

b. The Chairman may recommend the appointment of non-voting members to assist the Board in performing its functions.

c. Primary responsibilities of the Board are:

(1) Conducting ongoing evaluations of contractor performance and the submission of a Performance Evaluation Board Report (PEBR) to the FDO covering the Board's findings and recommendations for each evaluation period, as addressed in Part D.

(2) Considering proposed changes in this plan and recommending those it determines appropriate for adoption by the FDO, as addressed in Part E.

3. Performance Monitors (PMs)

a. A PM will be assigned to each performance area to be evaluated. The assignment will be made by the PEB Chairman as addressed in Part D.

2.1.4

b. Each PM will be responsible for complying with the General Instructions for Performance Monitors, Attachment D-2, and any specific instructions of the FEB Chairman as addressed in Part D. Primary PM responsibilities are:

(1) Monitoring, evaluating and assessing contractor performance in assigned areas.

(2) Periodically preparing a Performance Monitor Report (PMR) for the FEB, or others, as appropriate.

(3) Recommending appropriate changes in this plan for consideration, as addressed in Part E.

2.1:5

C. EVALUATION REQUIREMENTS

The applicable evaluation requirements are attached as indicated below.

<u>Requirement</u>	<u>Attachment</u>
1. Evaluation Periods and Maximum Available Award Fee for Each	C-1
2. Performance Areas and Evaluation Criteria	C-2
3. Grading Table	C-3
4. Award Fee Conversion Chart	C-4

The percentage weights indicated in Attachment C-2, the Attachment C-3 grading table, and the Attachment C-4 award fee conversion chart are quantifying devices. Their sole purpose is to provide guidance in arriving at a general indication of the amount of award fee earned. In no way do they impute an arithmetical precision to any judgmental determination of the contractor's overall performance and amount of award fee earned.

D. METHOD FOR DETERMINING AWARD FEE

A determination of the award fee earned for each evaluation period will be made promptly by the FDO after the end of the period. The method to be followed in monitoring, evaluating and assessing contractor performance during the period, as well as for determining the award fee earned, is described below. Attachment D-1 summarizes the principal activities and schedules involved.

1. The FEB Chairman will assign a PM for each performance area to be evaluated under the contract. PMs will be selected on the basis of their expertise relative to prescribed performance area emphases. PM personnel administration will be in addition to, or an extension of, regular responsibilities. The FEB Chairman may change PM assignments at any time without advance notice to the contractor. The FEB Chairman will notify the contractor promptly of all PM assignments.

2. The FEB Chairman will require that each PM receives the following:

- A copy of the contract and all modifications.
- A copy of this plan along with any changes made in accordance with Part E.
- Appropriate orientation and guidance.
- Specific instructions applicable to PM-assigned performance areas.

3. PMs will monitor, evaluate and assess contractor performance and discuss the results with appropriate contractor personnel, in accordance with the General Instructions for Performance Monitors, Attachment D-2, and the specific instructions and guidance furnished by the FEB Chairman.

4. PMs will submit monthly PMRs and, if required, make verbal presentations to the FEB.

5. As appropriate, the FEB Chairman will request and obtain performance information from other units or personnel normally involved in observing contractor performance.

6. Periodically, the FEB will consider PMRs and other performance information it obtains and discuss the reports and information with PMs or other personnel, as appropriate.

7. Promptly after the end of each month, except the final month of the evaluation period, the FEB will meet with the contractor and discuss overall performance during the period. As requested by the FEB

2.1:7

Chairman, PMs and other personnel involved in performance evaluations will attend the meeting and participate in discussions.

8. Promptly after the end of each evaluation period, the PEB will meet and consider all the performance information it has obtained. At the meeting, the PEB will summarize its preliminary findings and recommendations for coverage in the PEBR.

9. Then the PEB will meet with the contractor and discuss its preliminary findings and recommendations. As requested by the PEB Chairman, PMs and other personnel involved in performance evaluation will attend the meeting and participate in discussions. At this meeting, the contractor will be given an opportunity to submit matters in its behalf, including an assessment of its performance during the evaluation period.

10. After meeting with the contractor, the PEB will consider matters presented by the contractor and establish its findings and recommendations for the PEBR.

11. The PEB Chairman will prepare the PEBR for the period and submit it to the FDO for use in determining the award fee earned. The report will include a recommended range of award fee with supporting documentation. When submitting the report, the Chairman will inform the FDO whether or not the contractor desires to present any matters to the FDO before the award fee determination is made.

12. The FDO will consider the PEBR and discuss it with the PEB Chairman or other personnel, as appropriate. If requested by the contractor, or if the FDO considers it appropriate, the FDO will meet with the contractor for discussions. If requested by the FDO, the PEB Chairman and any other personnel involved in performance evaluation may be required to attend the meeting with the contractor.

13. The FDO will determine the amount of award fee earned during the period. The amount determined will not result solely from mathematical summing, averaging or the application of a formula. The FDO's determination of the amount of award fee earned and the basis for this determination will be stated in the Award Fee Determination Report (AFDR). The report will be signed by the FDO and given to the contractor for attachment to its voucher requesting payment of the award fee.

-7-

2.1

E. CHANGES IN PLAN COVERAGE**1. Right to Make Unilateral Changes**

Any matters covered in this plan not otherwise requiring mutual agreement under the contract, except the designated FDO, may be changed unilaterally by the FDO prior to the beginning of an evaluation period by timely notice to the contractor in writing. The changes will be made without formal modification of the contract.

2. Method for Changing Plan Coverage

The method to be followed for changing plan coverage is described below. Attachment E-1 summarizes the principal actions and schedules involved.

a. Personnel involved in the administration of the award fee provisions of the contract are encouraged to recommend changes in plan coverage with a view toward changing management emphases, motivating higher performance levels, or improving the award fee determination process. Recommended changes should be sent to the PEB for consideration and drafting.

b. The PEB will coordinate proposed changes with the contractor.

c. Prior to the end of each evaluation period, the PEB will submit changes applicable to the next evaluation period for approval by the FDO with appropriate comments and justification, or inform the FDO that no changes are recommended for the next period.

d. _____ work (or calendar) days before the beginning of each evaluation period, the FDO will notify the contractor in writing of any changes to be applied during the next period, or that there are no changes. If the contractor is not provided with this notification, or if the notification is not provided within the agreed-to number of work (or calendar) days before the beginning of the next period, then existing plan coverage will continue in effect for the next evaluation period.

ATTACHMENT C-1 TO AFDP FOR

Contract No. _____ With _____

EVALUATION PERIODS AND MAXIMUM
AVAILABLE AWARD FEE FOR EACHEvaluation Period

<u>No.</u>	<u>Duration</u>	<u>Ending</u>	<u>Max. Avail. Award Fee</u>
1			\$
2			
3			
4			

C-1:1

2.1

ATTACHMENT C-2 TO AFDP FOR

Contract No. _____ With _____

PERFORMANCE AREAS AND EVALUATION CRITERIA

The performance areas to be evaluated are identified below. The evaluation criteria for each area are attached, as indicated.

<u>Area No.</u>	<u>Brief Area Identification</u>	<u>Area Weight</u>	<u>See Attachment</u>
1			C-2.1
2			C-2.2
3			C-2.3

C-2:1

2.1:11

ATTACHMENT C-2.1 TO AFDP FOR

Contract No. _____ With _____

EVALUATION CRITERIA FOR PERFORMANCE AREA NO. 1.

[Area Identification Per Attachment C-2]

Area Weight _____

Description of Area:Subareas to Consider:Evaluation Criteria:Criteria WeightsBasis or Standard for Measuring Performance:

C-2.1:1

2.1:12

ATTACHMENT C-3 TO AFDP FOR

Contract No. _____ With _____

GRADING TABLE

Symbolic
(or Adjectival)
Grade

Description

Range of
Performance
Points

C-3:1

2.1

2.1:13

ATTACHMENT C-4 TO AFDP FOR

Contract No. _____ With _____

AWARD FEE CONVERSION CHART

The following quantifying device is for use in converting weighted performance points into percentages of available award fee.

Performance
Points

Percent of
Available
Award Fee

C-4:1

2.1

2.1:14

ATTACHMENT D-1 TO AFDP FOR

Contract No. _____ With _____

ACTIONS AND SCHEDULES FOR AWARD FEE DETERMINATIONS

The following is a summary of the principal actions involved in determining the award fee for each evaluation period.

<u>Action</u>	<u>Schedule (Workdays)</u>
1. PEB Chairman appoints PMs and informs contractor.	_____ days prior to period.
2. PMs furnished orientation and guidance.	_____ days prior to period.
3. PMs assess performance and discuss results with contractor.	Ongoing after start of period.
4. PMs submit PMRs to PEB.	Last day of each month.
5. PEB obtains performance information from other procuring activity personnel.	As requested.
6. PEB considers PMRs and other obtained performance information.	Ongoing.
7. PEB discusses overall performance with contractor during period.	_____ days after end of each month, except last month in period.
8. PEB meets and summarizes preliminary findings and position for PEBR.	_____ days after end of period.
9. PEB meets with contractor and discusses preliminary findings and position.	_____ days after end of period.
10. PEB establishes findings and recommendations for PEBR.	_____ days after end of period.

D-1:1

2.1

2.1:15

Action	Schedule (Workdays)
11. PEB Chairman submits PEBR to FDO.	_____ days after end of period.
12. FDO considers PEBR and discusses it with PEB, as appropriate.	_____ days after end of period.
13. FDO sends AFDR to contractor.	_____ days after end of period.

The PEB will establish appropriate lists of subsidiary actions and schedules to meet the above schedules, with emphasis on concurrency to the extent feasible.

D-1:2

2.1:16

ATTACHMENT D-2 TO AFDP FOR

Contract No. _____ With _____

GENERAL INSTRUCTIONS FOR PERFORMANCE MONITORS

1. Monitoring and Assessing Performance

a. PMs will prepare outlines of their assessment plans, discuss them with appropriate contractor personnel, and encourage maximum understanding of the evaluation and assessment environment.

b. PMs will plan and carry out both announced and unannounced assessment visits; however, before each announced visit, the PM should contact appropriate contractor personnel who may accompany the PM, if desired.

c. PMs will conduct all assessments in an open, objective and cooperative spirit so that a fair and accurate evaluation is obtained. This will enhance contractor receipt of information from which to plan improvements in performance. Positive performance accomplishments should be emphasized just as readily as negative ones.

d. After an assessment, the PM will discuss the results with appropriate contractor personnel, noting any observed deficiencies and/or accompanying recommendations. Adverse items or areas of poor performance will be covered to afford the contractor an opportunity to clarify possible misunderstandings and to correct or resolve deficiencies.

e. PMs must remember that contacts and visits with contractor personnel are to be accomplished within the context of official contractual relationships. PMs will avoid any activity or association which might cause, or give the appearance of causing, a conflict of interest.

f. PM discussions with contractor personnel are not to be used to instruct, to direct, to supervise, or as an attempt to control these personnel in the performance of the contract. The role of the PM is to monitor, assess and evaluate, not to manage the contractor's effort.

2. Documenting Evaluation/Assessment

Evaluations and assessments conducted, results obtained, and discussions with contractor personnel will be documented as follows:

(Specify format and minimum information requirements)

D-2:1

2.1

2.1:17

3. Evaluation/Assessment Reports

PMs will prepare a formal PMR in accordance with the following instructions and submit it to the PEB, or others, if appropriate, at the end of each month:

(Specify format and minimum information requirements)

4. Verbal Reports

PMs will be prepared to make verbal reports as required by the PEB Chairman.

D-2:2

2.1

2-1:10

ATTACHMENT E-1 TO AFDP FOR

Contract No. _____ With _____

ACTIONS AND SCHEDULES FOR CHANGING PLAN COVERAGE

The following is a summary of the principal actions involved in changing plan coverage.

<u>Action</u>	<u>Schedule (Workdays)</u>
1. FEB drafts proposed changes.	Ongoing.
2. FEB coordinates proposed changes with contractor.	Ongoing.
3. FEB submits recommended changes to FDO.	_____ days prior to end of each period.
4. FDO notifies contractor of changes or that there are no changes.	_____ days before start of applicable period.

The FEB will establish appropriate lists of subsidiary actions and schedules to meet the above schedules, with emphasis on concurrency to the extent feasible.

E-1:1

2.1

APPENDIX 2.2 - LIST OF PART II ACRONYMS

The following is an alphabetical list of all acronyms used throughout this Part II of the Guide:

AF	Award Fee
AFDP	Award Fee Determination Plan
AFDR	Award Fee Determination Report
CPAF	Cost-Plus-Award-Fee
CPFF	Cost-Plus-A-Fixed-Fee
CPIF	Cost-Plus-Incentive-Fee
FDO	Fee Determination Official
FM	Function Monitor
FMR	Function Monitor Report
FPI	Fixed-Price Incentive
ICC	Incentive Contracting Committee
PEB	Performance Evaluation Board
PEBR	Performance Evaluation Board Report
PEC	Performance Evaluation Committee
PECR	Performance Evaluation Committee Report
PM	Performance Monitor
PMR	Performance Monitor Report
PR	Director, Procurement and Contracts Management Directorate, Department of Energy
RFP	Request for Proposals
SOW	Statement of Work

Senator GLENN. Gentlemen, we have kept you here a long time today. It is 1 o'clock.

We appreciate you being here today and thank you very much.

The committee will be in recess.

[Whereupon, at 1:05 p.m., the committee recessed to reconvene subject to the call of the Chair.]

ADDITIONAL MATERIAL SUPPLIED FOR THE RECORD

This document is to be released under the President John F. Kennedy Library Act of 1964, except on the basis of specific approval or disapproval of Congressional Relations.

REPORT BY THE

Comptroller General

OF THE UNITED STATES

Department Of Energy's Safety And Health Program For Enrichment Plant Workers Is Not Adequately Implemented

The Department of Energy's (DOE's) program to protect the safety and health of employees at its contractor-operated uranium enrichment plants has not been fully implemented by DOE's Oak Ridge Operations Office. Appraisals and inspections of plant conditions are not as frequent and/or as thorough as required. Instead of independently investigating employee complaints, DOE has delegated this responsibility to the contractor.

The Secretary of Energy should make sure that Oak Ridge properly conducts inspections and appraisals and investigates and follows up on all employee complaints. He should also take steps to provide increased independence and objectivity in the Oak Ridge Operations Office's safety and health program. Furthermore, the Congress should authorize the Secretary of Energy to institute a program of non-reimbursable penalties and fines for violations of safety and health standards and procedures.



EMD-80-78
JULY 11, 1980



COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-199279

The Honorable John Glenn
Chairman, Subcommittee on Energy,
Nuclear Proliferation and
Federal Services
Committee on Governmental Affairs
United States Senate

Dear Mr. Chairman:

Your January 3, 1980, letter requested that we evaluate the Department of Energy's program for ensuring the safety and health of workers at the Department's three uranium enrichment plants. This resultant report focuses on three areas of program implementation: the adequacy of the Department's appraisals of contractor health and safety programs, inspections of plant conditions, and investigation of employee complaints.

As arranged with your office, further distribution of this report will not be made until your Subcommittee hearing on the subject.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "Thomas B. Staats".

Comptroller General
of the United States

COMPTROLLER GENERAL'S REPORT
TO THE CHAIRMAN, SUBCOMMITTEE
ON ENERGY, NUCLEAR PROLIFERA-
TION AND FEDERAL SERVICES,
SENATE COMMITTEE ON GOVERN-
MENTAL AFFAIRS

DEPARTMENT OF ENERGY'S
SAFETY AND HEALTH PROGRAM
FOR ENRICHMENT PLANT WORKERS
IS NOT ADEQUATELY IMPLEMENTED

D I G E S T

Although the Department of Energy (DOE) has designed a comprehensive program to ensure the health and safety of employees at the Nation's three Government-owned, contractor-operated uranium enrichment plants, its Oak Ridge Operations Office has not effectively implemented the program.

Injury records for the three enrichment plants are better than injury statistics for similar operations, such as the chemical industry, and radiation exposure records for the three plants indicate that employees are receiving less than maximum allowable doses. However, historical statistics may be somewhat misleading because DOE's current oversight of safety and health at the enrichment plants is not achieving the coverage required by the program. This is at least partially attributable to a shortage of safety and health staff at the Oak Ridge Operations Office. (See p. 25.)

DOE's program for safety and health oversight and enforcement at the three plants relies primarily on a three-layered system: (1) inspections, (2) appraisals of the contractor's operations, and (3) investigations of employee complaints. But DOE's Oak Ridge Operations Office has not conducted inspections and appraisals as frequently as required. In addition, when employees have exhausted the potential for in-house resolution of safety and health complaints and formally complained to DOE, the Operations Office has referred many complaints back to the contractor for resolution. Further, the Operations Office has done little to see that changes recommended as a result of complaint investigations are carried out.

Tear Sheet. Upon removal, the report cover date should be noted hereon.

i

EMD-80-78

SAFETY AND HEALTH INSPECTIONS NOT CONDUCTED

Although physical inspections of conditions, at each plant are required annually, DOE had conducted only five inspections at the three enrichment plants during the past 4 years. When inspections have been conducted, they have not included checking radiation levels in the plant. Thus, DOE cannot be sure that it is aware of potential hazards and take prompt action to eliminate or mitigate the risk of accidents. A March 7, 1978, release of more than 10 tons of liquid uranium hexafluoride from a ruptured storage cylinder at the Portsmouth, Ohio, enrichment plant may have been avoided, had the Department conducted on-site inspections and discussed safety and health concerns with employees. (See pp. 21 and 22.)

APPRAISALS SHOULD FOCUS ON PROBLEM AREAS

Appraisals--reviews of the operating contractors' safety and health programs--have been conducted more frequently than inspections, but not as often as necessary. Moreover, these appraisals have failed to focus on major problem areas, many of which had been identified in employee complaints.

For example, the Operations Office received two complaints concerning mislabeling or lack of labeling to warn employees of contaminated equipment at the Oak Ridge enrichment plant. Although the Operations Office agreed that a problem existed and suggested that the contractor establish and implement new procedures, the Operations Office's ensuing appraisal did not review this area. Sometime later, a similar complaint was again made to DOE. Even then, the appraisal conducted after this third complaint still did not address the problem area. (See pp. 22 through 25.)

**EMPLOYEE SAFETY AND HEALTH
COMPLAINTS SHOULD RECEIVE
MORE ATTENTION**

Employees with complaints are encouraged to seek resolution with the operating contractor. If the complaint is not resolved at that level, the employee may file a complaint with the Operations Office. In many cases, DOE has delegated complete responsibility for handling complaints received by DOE to the contractors. Referral to the contractor only sends the employee back to a situation from which he previously did not obtain resolution. If DOE's program is to ensure employee safety and health protection, it is imperative that the employee be offered an objective, independent review of his complaint and that the complaint not be recycled to the contractor. (See pp. 16 and 17.)

The Oak Ridge Operations Office is not adequately following up on changes recommended as a result of occupational safety and health complaints from employees at enrichment plants. Although DOE's procedures do not require such follow ups, they would be an effective safety and health tool, as well as a good management practice.

DOE procedures require a written response to each contractor employee filing a complaint, explaining the results of the investigation or stating why no investigation was made. The Oak Ridge Operations Office did not provide a written response to 27 of the 92 complaints on file from enrichment plant employees.

In cases where the Operations Office is at least partially in agreement with the complaint, it is important that the employee be informed of the action taken. In cases where no suggestions are forwarded to the contractor, it is equally important that the employee be informed as to why no changes are being recommended and what his rights of appeal are. (See p. 20.)

Oak Ridge Operations Office safety and health officials cite staff shortages as the primary reason for the lack of inspections and inadequate appraisals and complaint coverage. GAO's review of safety and health staffing at the Operations Office indicates that staff vacancies do exist and appear to have contributed to not meeting safety and health program objectives.

ENFORCEMENT AND INDEPENDENCE NEEDED

DOE's ability to enforce safety and health standards is handicapped because contractors have no immediate incentive to improve health and safety conditions. The Department does not have a system of fines for safety and health violations. DOE's primary enforcement power is the threat of non-renewal or cancellation of the contract it has with the operators. These methods are neither timely nor effective. (See pp. 27 and 28.)

The dual responsibilities of the Oak Ridge Operations Office--production and safety and health--limit its ability to independently and objectively administer a safety and health program.

Although conscious trade-offs of safety and health concerns for uranium enrichment production goals have not been detected, the structure of the organization detracts from the status and perceived authority of the safety and health program. The closeness of the safety and health program to all phases of contractor relations may have contributed to the Office's over-reliance on the contractor to carry out the safety and health program without adequate Operations Office oversight or monitoring. (See pp. 26 and 27.)

Various alternatives exist to remedy the apparent conflict of interest between safety and health, and production. As a minimum action, the Oak Ridge Operations Office's safety and health organization could become directly responsible to the Oak Ridge Operations Office manager. Further independence

could be provided by removing the safety and health program from Oak Ridge and placing it under a DOE headquarters organization.

A much more drastic alternative would be to allow an outside agency, such as the Nuclear Regulatory Commission or the Department of Labor, to administer the program. This would ensure independence and would provide a system of penalties and fines to increase enforcement ability.

RECOMMENDATIONS TO THE SECRETARY OF ENERGY

The problems facing DOE's safety and health program at enrichment plants raise concern about the adequacy and independence of the Department's entire safety and health program. GAO plans to review DOE's entire program in the near future. In the interim, however, GAO believes that several improvements in the health and safety program at enrichment plants should be made.

The Secretary of Energy should:

- Make sure that plant inspections and appraisals are performed as required and that all employees' complaints are investigated and followed up by the Oak Ridge Operations Office.
- Provide greater independence and objectivity in the Oak Ridge Operations Office safety and health program through an organizational change to provide insulation between safety and health concerns and production goals and objectives.

RECOMMENDATION TO THE CONGRESS

GAO believes that in order to enhance DOE's ability to enforce safety and health standards and procedures, a program of non-reimbursable fines and penalties, similar to that included in the Occupation Safety and Health Act of 1970, is needed. Therefore, GAO recommends that the Congress authorize the Secretary of Energy to institute a program of non-reimbursable fines and penalties for safety and health violations.

AGENCY COMMENTS

The Department of Energy disagreed with several aspects of GAO's draft report, commenting principally on its scope and presentation. The Department also suggested several factual clarifications which are included in this report.

Nevertheless, DOE advised GAO that immediate action was being taken to correct the staffing inadequacies at the Oak Ridge Operations Office and to improve the follow up on employee complaints. In addition, the Department said that the organizational location of the Oak Ridge safety and health staff is under review.

Contents

		<u>Page</u>
DIGEST		i
CHAPTER		
1	INTRODUCTION	1
	Description of uranium enrichment plants	1
	DOE's occupational safety and health program for enrichment plants	2
	Scope and methodology of review	3
2	URANIUM ENRICHMENT PLANTS' SAFETY RECORD	4
	Potential safety and health hazards	4
	Work-related injuries	5
	Accidents at enrichment plants	6
	Releases of radioactive materials	9
	Employee exposure to radiation	10
3	DOE DOES NOT ADEQUATELY ENFORCE ITS SAFETY AND HEALTH PROGRAM	13
	Employee safety and health complaints should receive more attention	13
	Safety and health inspections not conducted	21
	Appraisals should focus on problem areas	22
	DOE lacks adequate staff to fulfill safety and health responsibilities	25
4	INDEPENDENCE AND ENFORCEMENT AUTHORITY NEEDED IN DOE'S SAFETY AND HEALTH PROGRAM	26
	DOE's safety and health program needs more independence	26
	Penalties needed to strengthen enforcement	27
5	CONCLUSIONS AND RECOMMENDATIONS	29
	Recommendations to the Secretary of Energy	31
	Agency Comments	32

APPENDIX

Page

I Letter dated June 12, 1980, from
the Department of Energy

34

ABBREVIATIONS

AEC Atomic Energy Commission
DOE Department of Energy
GAO General Accounting Office
OSHA Occupational Safety and Health Act

CHAPTER 1INTRODUCTION

In passing the Occupational Safety and Health Act (OSHA) of 1970 (29 U.S.C. 651), the Congress sought to assure safe and healthful working conditions for every worker in the Nation. The act authorized the Secretary of Labor to establish and enforce national occupational safety and health standards. However, the act does not apply to the working conditions of employees with respect to which other Federal agencies are exercising other statutory authorities to prescribe or enforce standards or regulations affecting occupational safety and health. Under this exemption the Department of Energy (DOE), not the Department of Labor, is responsible for establishing and enforcing occupational safety and health standards for both radiological and nonradiological matters at many DOE-owned, contractor-operated facilities, including the Nation's three uranium enrichment plants.

DESCRIPTION OF URANIUM
ENRICHMENT PLANTS

The Government owns three enrichment plants. Those located in Paducah, Kentucky, and Oak Ridge, Tennessee, are operated by the Union Carbide Corporation; the Portsmouth, Ohio, plant is operated by the Goodyear Atomic Corporation.

The primary purpose of the enrichment plants is to provide uranium containing about 2 to 5 percent of the uranium-235 isotope ¹/ for use in nuclear reactors. All three enrichment plants have this capability. In addition, the Portsmouth plant is able to provide uranium enriched to more than 93 percent of uranium-235 for uses in test and research reactors and in the naval reactor and nuclear weapons programs.

The enrichment process--much like a filtering process--utilizes a gas (uranium hexafluoride) and a porous barrier which allows the lighter uranium-235 to pass through more readily than the heavier uranium-238. The degree of enrichment which can be achieved in a single diffusion through the porous barrier is very small. Thus, the

¹/Uranium, as a natural ore, consists of two principal isotopes, uranium-235 (about 0.7 percent of natural uranium), which is fissionable, and uranium-238 (about 99.3 percent of natural uranium), which is not fissionable in a nuclear reaction.

diffusion process must be repeated many times. Because the repetitive nature of the process demands a lot of machinery, these plants are among the largest industrial facilities in the world. About 11,200 people are employed at the three plants; 6,200 at Oak Ridge, 2,700 at Portsmouth, and 2,300 at Paducah.

DOE'S OCCUPATIONAL SAFETY AND HEALTH PROGRAM FOR ENRICHMENT PLANTS

When OSHA was enacted, the former Atomic Energy Commission (AEC) desired to remain responsible for the occupational safety and health of employees at its Government-owned, contractor-operated facilities. AEC had previously exercised its authority to require safety and health programs at its contractor-operated facilities under the Atomic Energy Act of 1954 (42 U.S.C. 2201). AEC desired to keep such control over the safety and health program primarily because it felt that OSHA's provisions for individual State programs could lead to non-uniform application of standards.

Initially, AEC wanted to consider its facilities as being subject to OSHA, with AEC enforcing compliance under an interagency agreement. AEC and the Department of Labor attempted to negotiate such an arrangement for more than 2 years. However, it was finally determined that State authority could not be excluded if a facility was considered subject to OSHA. Subsequently, AEC decided to exercise its exemption from Department of Labor jurisdiction.

On February 4, 1974, the Department of Labor formally accepted AEC's argument that it had, and was exercising, the required statutory authority to enforce its own occupational safety and health programs at its contractor-operated facilities. DOE has inherited this authority, but the authority extends only to those facilities which DOE operates subject to the Atomic Energy Act of 1954.

Policy, objectives, and organization

DOE's general policy is to provide contractor employees at DOE-owned facilities with safe and healthful working conditions, complying with standards at least as effective as those promulgated under OSHA. Within DOE, overall responsibility for occupational safety and health assurance is assigned to the Assistant Secretary for Environment. The functions of program overview, and developing standards, policies, regulations, procedures, and overall direction are delegated to the Assistant Secretary for Environment's Operational and Environmental Safety Division.

Ensuring that the safety and health program at DOE's facilities is implemented has been assigned to the program offices. The program offices' responsibilities for occupational safety and health at DOE-owned, contractor-operated facilities are dispatched through the DOE field or operations offices. Field responsibility for all three enrichment plants is administered by the Oak Ridge (Tennessee) Operations Office. The Oak Ridge Operations Office has none of its occupational safety and health personnel located at the enrichment plants.

SCOPE AND METHODOLOGY OF REVIEW

In response to allegations that the enrichment plants are not being safely operated, the Chairman of the Subcommittee on Energy, Nuclear Proliferation and Federal Services, Senate Committee on Governmental Affairs, requested that we review DOE's safety and health program to determine (1) if its procedures are adequate to ensure the safe operation of uranium enrichment facilities and (2) if such procedures are adequately implemented.

The review was conducted at DOE headquarters in Washington, D.C.; DOE's Oak Ridge Operations Office; the Oak Ridge Gaseous Diffusion Plant; and the Portsmouth Gaseous Diffusion Plant.

In the review, we analyzed DOE's safety and health policies, regulations, and procedures. While DOE's safety and health program includes safety reviews of the design and construction of new facilities, preoperational reviews, and accident investigations, our review focused on the adequacy of the methods (inspections, appraisals, and complaint investigations) DOE uses to ensure that contractors at the enrichment plants implement all DOE safety standards and procedures. We reviewed pertinent formal documents and held discussions with DOE officials, plant (contractor) management, and plant employees. We examined the safety records of the three plants and compared them with national statistics and DOE-wide statistics. In addition, we reviewed 11 major accidents which have occurred at the facilities and reviewed 92 safety and health complaints filed by contractor employees.

To obtain some perspective as to the typicality of the Oak Ridge Operations Office's safety and health program, we held discussions with safety and health personnel at DOE's Nevada and Albuquerque Operations Offices.

CHAPTER 2URANIUM ENRICHMENT PLANTS' SAFETY RECORD

The injury record for the three enrichment plants is better than injury statistics for similar operations, such as the chemical industry. In addition, radiation exposure records for the three plants indicate that employees are receiving less than the maximum allowable doses. However, these plants have experienced a number of serious accidents over the past few years and have also experienced numerous leaks of radioactive materials. Exposures to radiation, in any dose, and radioactive releases to the environment are of particular concern because the long-term effects of radiation and its relation to various forms of cancer are not known.

POTENTIAL SAFETY AND
HEALTH HAZARDS

As with nearly any production facility, enrichment plants involve some risk of worker injury or death from mechanical operations and industrial hazards. In addition, enrichment plants present several chemical and radiation hazards which are somewhat unique and warrant a brief description.

Many employees at the enrichment plants come in contact with radioactive materials, primarily by handling storage containers or during maintenance. In most cases, protective equipment which greatly limits the employees' exposures is available. The primary radiation hazard at the plants is unanticipated releases of uranium hexafluoride from the enrichment process or from storage.

Releases can result in the inhalation or ingestion of uranium. Exposures to large amounts of radiation can kill a person within a few days. However, according to DOE officials, at lower levels of uranium-235 enrichment, the most damage that an exposed employee would receive would not be due to radioactivity, but due to the heavy metal qualities of uranium. (Heavy metals, such as uranium and lead, damage the urinary system when ingested.)

Uranium hexafluoride, if leaked to the environment, also presents a chemical hazard. It may mix with the moisture found in humid air to form hydrogen fluoride (a very corrosive gas) and uranyl fluoride (a radioactive solid). The hydrogen fluoride gas can severely damage lungs. Uranyl fluoride will dissolve in water and once inhaled or ingested, it can cause organ damage.

There is some potential for achieving nuclear criticality ^{1/} in an enrichment plant. Criticality has never occurred, however, and DOE officials consider the possibility to be remote, as long as the uranium hexafluoride is maintained as a gas. Nevertheless, criticality detection systems and warning devices are required for the plants.

The Portsmouth plant, which has the capability to produce highly enriched uranium, involves additional hazards. Highly enriched uranium increases the consequences of any accident, injury, or exposure. Additionally, the Portsmouth and Paducah plants include facilities that convert uranium oxide to uranium hexafluoride (although neither facility is currently operating). If inhaled, uranium oxide will not dissolve in water and will remain in the lung indefinitely.

WORK-RELATED INJURIES

Contractors collect data related to on-the-job injuries and employee exposures, and provide summaries to DOE. Enrichment plant operations, for comparative purposes, are most similar to the chemical industry. The contractors' data indicate that enrichment plants have a lower injury rate than the chemical industry and that the time lost due to injuries is less than that of the chemical industry. Injury rates for the plants are well below the national average for all industries. The following two charts show the most recent (calendar year 1978) national injury incidence rates, the injury-related days away from work for all industries (including the chemical industry), ^{2/} as well as the comparable statistics for the three enrichment plants for calendar years 1978 and 1979.

^{1/}Criticality is the point at which a fission chain reaction begins. When criticality is reached, an explosion can occur due to rapid expansion and/or vaporization.

^{2/}"Accident Facts, 1979 Edition," National Safety Council.

Recordable Injuries Per 200,000 Employee Hours (note a)

All industry (1978)	3.46
Chemical industry (1978)	1.78
Paducah plant:	
1978	0.5
1979	0.4
Portsmouth plant:	
1978	0.4
1979	0.4
Oak Ridge plant:	
1978	0.4
1979	0.3

a/Recordable injuries are those involving lost work time or restricted work time.

Lost Work Days (Due to Injuries)
Per 200,000 Employee Hours (note a)

All industry (1978)	61.0
Chemical industry (1978)	34.0
Paducah plant:	
1978	22.1
1979	6.5
Portsmouth plant:	
1978	9.7
1979	16.4
Oak Ridge plant:	
1978	22.7
1979	5.8

a/Lost work days are restricted days and lost time days.

In order to reduce work-related injuries and comply with OSHA standards, DOE started a program in 1974 to improve the safety of the enrichment plants. When completed, the program will have spent over \$8 million to retrofit the three plants (built 15 to 25 years before OSHA). As of December 31, 1979, the program was about 70 percent completed. Most of the changes involve non-radiological safety concerns such as ventilation, noise abatement, fire prevention, electrical safety, and machine guards.

ACCIDENTS AT ENRICHMENT PLANTS

Eleven major accidents have occurred at the three enrichment plants since 1970. One fatality has resulted, and six accidents resulted in radioactive spills or releases.

DOE has categorized major accidents in two categories: type "A" and type "B." Criteria for a type "A" accident include accidents resulting in

- a fatal injury or illness, or a "lost work day" injury or illness to five or more workers,
- loss or damage of property amounting to \$250,000 or more;
- the release of hazardous pollutants or the loss, theft, or release of materials in hazardous amounts;
- an excessive radiation dose to an employee; and
- unplanned nuclear criticality.

Type "B" accidents are defined as those resulting in property damage between \$100,000 and \$250,000 or a release of radioactive material in excess of standards. A brief description of the type "A" and "B" accidents since 1970 follow.

1. Explosion (Portsmouth; May 19, 1971; type A)

A propane tank owned by a subcontractor ruptured when a leak developed in the base of a propane gas cylinder and was ignited by an undetermined source. Extensive damage occurred to the floor and walls of the building (\$440,000). There was a minor injury as a result of the incident.

2. Radioactive release (Portsmouth; May 2, 1973; type A)

A uranium hexafluoride release occurred as an employee was attempting to take a liquid sample of material from a storage cylinder. The leak, which lasted approximately 20 minutes, resulted in the loss of 215 pounds of uranium. Damage was estimated at about \$13,600; no injuries or exposures resulted.

3. Compressor failure resulting in radioactive release (Portsmouth; April 10, 1975; type B)

Failure of an expansion joint resulted in the release of nearly 27 pounds of uranium over a 27 minute period. Two employees were placed on temporary restriction; however, neither was found to have inhaled significant amounts. Damage was estimated at about \$29,000.

4. Radioactive release (Portsmouth; August 6, 1975; type B)

Electrical problems resulted in erratic heating of uranium hexafluoride and a blocked copper tube. The tube ruptured and allowed about 2.9 pounds of uranium (enriched to 97.5 percent uranium-235) to escape over a 5 to 25 minute period. Although 17 workers inhaled more than the permissible amount of uranium, DOE did not consider any to have received a significant dose. Damage was estimated at \$28,310.

5. Valve malfunction resulting in radioactive release (Portsmouth; November 10, 1975; type B)

After an August 5, 1975, release, new operating procedures were implemented but, in this case, were not followed. A connection was made with only one gasket rather than the required two, and when the valve was opened, about 23 pounds of uranium enriched to 97.5 percent uranium-235 escaped. The leak lasted 46 minutes because of inoperable safety equipment. No employees received what was considered to be significant exposures, and total cost of the accident was estimated at \$101,127.

6. Electrical fire (Paducah; December 13, 1976; type B)

A ground fault existed in an electric motor which was not operated in accordance with procedures. The resulting electrical fire damaged about \$72,000 of equipment and slightly injured two firemen.

7. Electrocution (Paducah; February 16, 1977; type A)

An electrician contacted 4,160 volts, partially due to the prior removal of a safety barrier. The electrician was fatally injured and \$55,000 in damage resulted.

8. Explosion and radioactive release (Paducah; January 3, 1978; type B)

A mechanical failure caused an explosion. About 30 pounds of uranium hexafluoride was released. No injuries resulted and damage was estimated at \$200,204.

9. Radioactive release (Portsmouth; March 7, 1978;
type A)

A vehicle carrying a 14-ton cylinder containing liquid uranium hexafluoride failed. The cylinder was dropped and ruptured, releasing 21,125 pounds of uranium in about 5 minutes. No employees were exposed in excess of maximum limits; damage totaled \$368,350. A report on the accident indicated the vehicle was in extremely poor condition and that many cylinders had been previously dropped. The report also stated that under less favorable conditions, this type of accident would have resulted in injuries and/or fatalities.

10. Electrical explosion (Portsmouth; March 31, 1980;
type A)

An electrical failure caused an explosion which seriously injured an employee and resulted in \$47,000 damage.

11. Smelter furnace refractory burnthrough (Paducah;
April 10, 1980; type B)

A refractory burnthrough resulted in property damage of \$47,000. No injuries occurred.

RELEASES OF RADIOACTIVE MATERIALS

While there have been only six releases of radioactive materials which have been classified as type A or type B accidents, operations at the three enrichment plants since the 1940s have resulted in 240 releases of radioactive materials containing 1 kilogram (about 2.2 pounds) or more of uranium. Forty-one of these releases occurred at the Oak Ridge plant; 88 at the Paducah plant; and the remaining 111 at the Portsmouth plant.

In addition, a small number of releases occurred involving uranium oxide and uranyl nitrate. Even so, these figures do not represent every release of radioactive material. Releases of less than 1 kilogram are not included, and a list of such releases is not available for Paducah and Oak Ridge. The Portsmouth plant has experienced about 170 additional releases of between 1 gram and 1 kilogram of uranium.

Causes of such releases vary widely. More than half of the releases at Portsmouth resulted from various mechanical failures, including valve failure and failed lines and gaskets.

About 15 percent of the Portsmouth releases resulted from corrosion (primarily liquid storage cylinders), and 7 percent involved human error. At least six releases resulted from dropped storage cylinders.

EMPLOYEE EXPOSURE TO RADIATION

DOE radiation standards are based on a philosophy that radiation exposures are to be maintained as low as reasonably achievable within the radiation limits for employees and the general public. DOE regulations state that assuring that work and public exposure do not exceed the exposure guidelines is insufficient because under DOE policy, operations shall be conducted in a manner to assure that radiation exposures are limited to the lowest levels technically and economically practicable. Basic to this policy is the premise that exposures can be maintained as low as reasonably achievable through the design of a facility or equipment, through state-of-the-art monitoring and protective equipment, and through quality procedures and training. Protection against radiation exposures within enrichment plants can be provided through numerous methods--including ventilating equipment, respiratory protection, protective clothing, warning systems, and proper operation of all equipment.

DOE's radiation standards, the same as those recommended by the National Council for Radiological Protection, 1/ are shown in the following chart.

1/A non-profit corporation chartered by the Congress in 1964 to, among other things, collect, analyze, develop, and disseminate, in the public interest, information and recommendations about (1) protection against radiation and (2) radiation measurements, quantities, and units, particularly those concerned with radiation protection.

Radiation Protection Standards for
External and Internal Exposures

<u>Type of exposure</u>	<u>Exposure period</u>	<u>Dose equivalent (rems) (note a)</u>
Whole body, head and trunk, gonads, eye lens, red bone marrow, active blood forming organs	year	5
	quarter	3
Unlimited areas of the skin and other organs and tissues	year	15
	quarter	5
Bone	year	30
	quarter	10
Forearms	year	30
	quarter	10
Hands and feet	year	75
	quarter	25

a/Dose equivalent is measured in rems. A rem is the radiation energy absorbed by the body multiplied by a factor which compares the biological effect of different types of radiation.

Monitoring for exposures is required for any individual who has the potential to receive a dose in excess of 10 percent of the quarterly or annual standard. Monitoring must be conducted for external radiation--primarily by dosimeters--and internal radiation--primarily by bioassay analysis and in vivo (whole body) monitoring.

Exposure to radiation in excess of the standards requires that the worker be placed on restriction--that is, reassigned to work which will not increase his exposure. Employees are sometimes put on restriction at levels less than the maximum dose equivalent if it is thought he or she may receive additional exposure which would exceed the standard. Placing workers on restriction for less than the maximum level is left to the discretion of the contractor.

Records of exposure are kept by contractors and reported periodically to DOE. We examined exposure records for employees at the three enrichment plants for calendar years 1974 through 1978 and found no record of any individuals whose exposure to radiation exceeded the standard established.

For in vivo exposures--maximum limit of 5 rem--we found no employees reported to have received more than 2 rem. Twenty-four employees had received between 1 and 2 rem; 18 at Portsmouth, 5 at Paducah, and 1 at Oak Ridge.

The maximum dose equivalent for internal body dispositions of radioactive materials varies depending on the organ. According to DOE records, during the period 1974 through 1978, no employee at any of the enrichment plants received more than the maximum limits. Fifteen employees did receive doses exceeding one-half of the limit. Twelve of these employees worked at Portsmouth; the remaining 3 worked at Paducah. All 15 cases involved doses to the lungs. The maximum limit for lungs is 15 rem per year. The highest dose recorded was about 10.9 rem.

As stated previously the long-term effects of any exposures to radiation--even those below allowable standards--are of particular concern. DOE's policy of limiting exposures to as low as practicable mirrors this concern. Many experiences have confirmed that exposure to radiation can increase the incidence of cancer. And although groups of people who have been exposed to radiation occupationally or medically have been studied and observed, important questions remain unanswered about the effects of radiation. Scientists are still trying to understand exactly how radiation causes cancer, and determine how many cancers are caused by a given amount of radiation.

It is interesting to note that the Portsmouth plant employees experienced the highest levels and greatest numbers of exposures. In addition, nearly half the uranium hexafluoride releases and six of the nine major accidents occurred at Portsmouth. DOE officials believe this situation is partially attributable to the processing of highly enriched uranium (which is not done at the Paducah or Oak Ridge plants). DOE also attributed this situation to the backgrounds of the contractors. Union Carbide--the contractor at the Oak Ridge and Paducah plants--is primarily involved in the chemical industry, which has a tradition of being safety conscious. DOE officials informed us that the Goodyear Atomic Corporation has not been as safety conscious in the past, but that the situation has improved.

CHAPTER 3DOE DOES NOT ADEQUATELY ENFORCEITS SAFETY AND HEALTH PROGRAM

Establishing standards, procedures, and regulations and ensuring their implementation are essential for providing contractor employees at DOE facilities with safe and healthful working conditions. This is DOE's safety and health program's goal. Onsite implementation of the safety and health program is the contractor's responsibility. Union Carbide Corporation and Goodyear Atomic Corporation have safety and health programs at the enrichment plants, including full-time safety and health personnel. DOE's Oak Ridge Operations Office is responsible for ensuring that the enrichment plant contractors do provide safe and healthful working conditions and adhere to DOE's established standards and procedures.

To ensure that safety and health standards and procedures are implemented properly at existing facilities such as the enrichment plants, DOE's Oak Ridge Operations Office has three primary tools: complaint investigations, inspections, and appraisals. In general, inspections involve physical checks of plant conditions, and appraisals involve reviews of the contractor's safety and health program. Our review indicated that the Oak Ridge Operations Office was not using these tools effectively and, therefore, could not ensure that DOE's safety and health program was being implemented by the contractors.

EMPLOYEE SAFETY AND HEALTH COMPLAINTS
SHOULD RECEIVE MORE ATTENTION

The complaint procedure is one means by which DOE can learn about the effectiveness of the safety and health program and the actual working conditions at the plants. DOE encourages employees to initially report to the contractor, either directly or through their authorized employee representative, any conditions or practices which they consider detrimental to their safety or health or which they believe are in violation of DOE safety and health standards. Such complaints may be made orally or in writing.

When the operating contractor receives a complaint from an employee, the contractor is required to confer with the employee and arrange for a joint inspection of the condition or circumstances identified in the complaint. If, on the basis of either the inspection or the report on the contractor's disposition of the complaint, the employee feels that the situation has not been remedied, he may file a complaint

with the cognizant DOE operations office. Posters are to be placed in all work areas providing information on the complaint procedures.

When DOE receives an employee complaint, the safety and health staff is to immediately ascertain whether the hazard cited poses imminent danger to employees. If the complaint involves imminent danger and appears to have merit, DOE shall dispatch an inspector to the workplace involved. When an immediate inspection cannot be made, DOE shall contact the contractor immediately, ascertain as many pertinent details as possible concerning the situation, and if necessary, have affected employees removed from the danger area. DOE is to ascertain what steps, if any, the contractor intends to initiate in order to eliminate the danger.

DOE is to conduct an inspection, whether or not the contractor is able to eliminate the danger. If a complaint does not involve imminent danger, DOE is to review the basis of the complaint and, if determined necessary, conduct an inspection within 15 days.

Unless an employee wishes to remain anonymous, DOE must respond, in writing, to each complaint received and provide the results of the inspection or state why no inspection was conducted.

DOE's Oak Ridge Operations Office is the focal point for complaints from the employees at the three enrichment plants. From files at the Oak Ridge Operations Office, we identified 92 complaints filed by enrichment plant employees since DOE's complaint procedures were formulated. Virtually, all the complaints (91 of 92) have been filed since the beginning of 1975. ^{1/} The following chart shows the distribution of complaints on file by enrichment plant and by year.

^{1/}While interviewing employees, however, we became aware of a few complaints which were filed with the Oak Ridge Operations Office, but were not in their files. After reviewing a draft of this report, DOE's Oak Ridge Operations Office informed us that it identified 125 complaints received. The figures contained in this report, however, still reflect the 92 complaints which we reviewed in detail.

Enrichment Plant

<u>Calendar year</u>	<u>Portsmouth</u>	<u>Paducah</u>	<u>Oak Ridge</u>
	----- (number of complaints filed) -----		
1973	0	0	1
1974	0	0	0
1975	0	1	4
1976	2	0	5
1977	5	1	7
1978	<u>b/27</u>	0	7
1979	5	0	<u>b/26</u>
1980 (note a)	<u>1</u>	<u>0</u>	<u>0</u>
Total	<u>40</u>	<u>2</u>	<u>50</u>

a/Through February 5, 1980.

b/The large number of complaints filed by Portsmouth employees during 1978 and by Oak Ridge employees during 1979 reflect groups of employees filing complaints at the same time. On April 17, and 18, 1978, 19 separate complaints were filed by Portsmouth employees. On July 17, 1979, 18 Oak Ridge employees filed complaints. These complaints were not related to single incidents.

Oak Ridge Operations Office safety and health personnel informed us that none of the 92 complaints they received were considered to involve imminent danger to plant employees. Fifty-two 1/ of the 92 complaints resulted in investigations by DOE or the contractor. Only six of the complaints were found to be safety or health violations; however, occupational safety- or health-related changes were recommended in 27 other cases where no violations were found. Thirty-three of the complaints on file involved allegations of danger from radiation.

1/Eighteen of the complaints were combined in one investigation during July 1979.

Contractors relied on to
resolve complaints for DOE

DOE's procedures for handling employee complaints encourage employees to seek satisfaction in-house. If the complaint is not resolved in-house, or if for some reason (such as desiring anonymity) the employee does not wish to contact the contractor, he may file a complaint with the Oak Ridge Operations Office. Thus, if an employee files a complaint with the Oak Ridge Operations Office, he is usually indicating that he has exhausted the potential for in-house resolution.

The Oak Ridge Operations Office has, however, requested extensive contractor participation in the investigation of complaints that it has received. Of the 52 complaints filed with the Oak Ridge Operations Office which resulted in site inspections, the Operations Office requested that the contractor handle 11 of the investigations and inspections.

For example, on April 26, 1979, an employee filed a formal complaint with the Oak Ridge Operations Office alleging that proper procedures were not being followed when processing highly enriched material, creating an unsafe condition. On April 30, 1979, an Oak Ridge Operations Office safety and health official phoned the employee and told him that no imminent criticality hazard existed. The employee was referred to the contractor if he desired further discussions. Operations Office files show that the employee declined to meet with contractor management and withdrew his complaint. An Operations Office safety and health official discussed the complaint with contract administration personnel who later contacted the contractor and discovered that 16 employees had been exposed to a release of uranium hexafluoride related to the operations described in the complaint. The contractor agreed to conduct an investigation, addressing the employee's complaint and including a review of the adequacy of adherence to operating procedures and the related nuclear criticality safety implications.

Our conversations with the employee who filed the complaint indicate the employee did not desire to have the contractor conduct the investigation. He stated that his only contact with the Operations Office was a phone call informing him that his complaint was really a financial matter, not a safety matter. He received no letter or followup contact from Oak Ridge. He also stated that he did not agree to drop the complaint but eventually gave up. According to the employee, his only contact with the contractor's

management after the complaint involved his being informed that he did not understand the operation of the system. The employee was not informed by the contractor of the results of its investigation; neither was the Oak Ridge Operations Office aware of the results.

In another case, on March 14, 1978, a Portsmouth employee filed a written complaint, alleging that an emergency valve which shuts off a line when gas is escaping was out of reach for short employees and should be lowered. On the complaint form, the employee stated that the suggestion had been made to management, but that no action had been taken even though management agreed that the valve should be lowered. On March 24, the Oak Ridge Operations Office informed the employee that his complaint had been turned over to the contractor for investigation, and if he was not satisfied, he could contact Oak Ridge for an independent investigation. The letter stated that the employee had agreed to this.

The employee informed us that before filing the complaint with the Oak Ridge Operations Office, he had expressed his concern to his supervisor and the contractor's safety staff. Only after receiving no satisfaction from contractor management did he resort to DOE. The employee informed us that he did not agree to let the contractor investigate and had understood that the Operations Office was going to do it. Contractor safety and health personnel did contact the employee, but the issue has never been resolved to his satisfaction. Oak Ridge did not contact the employee to see if he was satisfied with the contractor's investigation and currently is not aware if the complaint was valid or not.

The DOE complaint procedures provide for an employee to exhaust his options in-house before contacting DOE unless he specifically desires DOE to review the complaint. Under either situation, if a complaint is filed with DOE, the employee's desire for an independent investigation is implicit. In many cases, referral to the contractor only reverts the employee back to a situation from which he previously did not obtain resolution or which he specifically did not desire. If DOE's program is to meet its objective of ensuring the safety and health of all employees, it is imperative that employees be offered objective, independent reviews of their complaints and that the complaints not be recycled to the contractor which may be responsible for the situations giving rise to the complaints.

Lack of followup on recommendations
made resulting from complaints

Although DOE procedures do not require the Operations Office's staff to follow up on changes recommended as a result of employee complaints, it is a good management practice and essential to an effective safety and health program to do so.

The Oak Ridge Operations Office is not adequately following up on changes recommended as a result of occupational safety and health complaints from employees at enrichment plants. Six of the 92 complaints filed with DOE were found to involve safety and health standards or procedures violations. These violations involved

- handling and tagging (labeling) of contaminated material and lack of response to employee requests for exposure information,
- defective electrical outlets,
- design and procedural deficiencies resulting in excessive airborne dust concentrations,
- excessive airborne nickel concentrations,
- unsafe forklifts, and
- procedural deficiencies resulting in employees being exposed to technitium (a radioactive substance).

Our review indicates that only the recommendation related to fixing unsafe forklifts was specifically monitored by DOE to ensure correction. 1/ The recommendation related to the excessive airborne nickel violation was not formally monitored; however, Oak Ridge Operations Office personnel informed us that they questioned the contractor's industrial hygienist related to the violation and received two letters from the contractor describing the corrective actions that had been taken. Oak Ridge Operations Office safety and health officials informed us that (1) the recommendation related to technitium exposures had been monitored, although no record of such exists and (2) they have had assurance

1/After reviewing a draft of this report, Oak Ridge Operations Office officials informed us that, subsequent to our review, they formally followed up on the handling and tagging violation.

from the contractor that the airborne dust concentration violations have been corrected.

In addition to the actual violations of safety and health standards or procedures, the Oak Ridge Operations Office made recommendations or suggestions related to 27 additional complaints. The Operations Office failed to follow up on recommendations related to 20 of the complaints, and in only 2 of the remaining 7 cases is there a record of monitoring.

Failure to monitor contractor actions related to safety and health violations or recommendations for improvements results in DOE's not having assurance that the situation which led to the violation or employee complaint will not recur. For example, 5 of the 50 complaints that DOE received from Oak Ridge plant employees involved improper identification of contaminated equipment.

The first of these complaints took place on May 28, 1975, when a complaint was received concerning mis-tagging of a contaminated pump housing which was to be machined. The housing was marked as being contaminated below the level which would require protective equipment for those employees who would work on the housing. A radiological survey showed, however, contamination 15 to 22 times greater than the level indicated on the tag. Oak Ridge Operations Office officials met with the contractor, who agreed to redefine tagging responsibility and criteria.

On August 6, 1975, the same employee filed a similar complaint with DOE concerning an injury which resulted from an employee's working, without protective equipment, on a valve contaminated beyond plant limits. There was no contamination tag on the valve. Oak Ridge Operations Office officials asked the contractor to look into the matter and directed that future procedures require tags on contaminated material. Although a 1976 appraisal addressed the general issue of contamination by noting that the contractor had issued a new procedure, we found no evidence that any attempt was made to verify implementation of the new procedure or correction of the situations occurring in May and August 1975.

A related complaint was filed with DOE on January 2, 1977. Oak Ridge Operations Office officials instructed the contractor to issue written procedures to correct the problem. On April 4, 1979, still another complaint was received, which included concerns related to the tagging of contaminated material. The employee was referred to the contractor for additional training.

Finally on July 7, 1979, 18 formal complaints were filed with DOE. These complaints triggered an investigation which resulted in the Oak Ridge Operations Office's citing the contractor for procedural violations regarding contaminated material handling and tagging. No DOE recommendation resulted, as the contractor had a review underway of the contaminated process materials control program and had plans to implement a training program for front line supervisors.

While no serious exposures or injuries apparently occurred as a result of the tagging problem at the Oak Ridge facilities, the Oak Ridge Operations Office has allowed the problem to exist for nearly 5 years without taking action to ensure that the situations had been corrected or that proper procedures were being implemented. Reliance on contractors to implement DOE recommendations does not appear to be sufficient. Formal, periodic monitoring--including physical inspections--of contractor implementation of DOE recommendations should be required to ensure maximum worker protection.

Lack of response to employees filing complaints

DOE procedures require a written DOE response to each contractor employee filing a complaint. The response is to be sent to the employee's home and is to provide the results of the investigation or state why no inspection was made. The Oak Ridge Operations Office did not provide a written response to 27 of the 92 complaints on file. Oak Ridge officials informed us that 10 of the 27 complaints were provided an oral response.

It is important to both employee morale and to DOE's credibility that all contractor employees filing complaints with DOE be provided with a written response. In 17 of the 27 cases without written responses (and in 10 of the 17 without even an oral response), the Oak Ridge Operations Office had made suggestions to the contractor for improvements relating to the complaint. In cases where DOE is at least partially in agreement, it is important to inform the employee of the action taken. In the remaining cases where no suggestions are forwarded to the contractor, it is equally important to inform the employee why no changes were recommended and to inform the employee of his right to appeal the decision made by DOE's safety and health personnel.

SAFETY AND HEALTH
INSPECTIONS NOT CONDUCTED

Oak Ridge Operations Office safety and health personnel are required to conduct unannounced inspections of the enrichment plants to ensure compliance with appropriate safety and health standards, regulations, and procedures. Inspections are to be performed on a priority basis with respect to the hazards involved and the number of employees affected. Inspections are also to be conducted so that a representative sample of operations (some large buildings, some small buildings, production operations, construction operations, etc.) of each plant are inspected every year.

Oak Ridge safety and health officials informed us that the objective of the inspection is to provide a visual check to ensure that proper safety and health procedures are being followed and all safety and health protective devices are in place and operable. Employees are to be given an opportunity to have a representative accompany the DOE inspector. The inspector may consult with any employee at any time. Inspections focus on industrial safety (e.g., hand railings, electrical safety, machinery guards). The Oak Ridge Operations Office does not, as part of an inspection or any other visit to an enrichment plant, monitor for radiological contamination.

As of February 5, 1980, DOE's Oak Ridge Operations Office had not conducted an inspection at an enrichment plant for nearly 2 years. ¹/ Dates of the most recent inspection at the plants are:

January 18, 1977 - Portsmouth
 September 9, 1977 - Oak Ridge
 February 16, 1978 - Paducah

At the Oak Ridge and Paducah plants, the previous inspections were conducted in 1975 and 1976, respectively.

In not conducting inspections, DOE cannot maintain awareness of potential hazards and take prompt action to eliminate or mitigate the risk of accident. The March 7, 1978, release of more than 10 tons of liquid uranium hexafluoride from a ruptured storage cylinder at the Portsmouth

¹/While reviewing a draft of this report, Oak Ridge Operations Office personnel stated that they had conducted two inspections--one at Oak Ridge and one at Portsmouth--subsequent to our review work.

plant may have been avoided had DOE's Oak Ridge Operations Office conducted onsite inspections and discussed safety and health concerns with employees. The cylinder ruptured when it was dropped from a vehicle (straddle carrier) transporting it. DOE's subsequent investigation of the accident revealed that dropped storage cylinders occur so frequently that they are not even reported unless damage results.

Had DOE conducted inspections, interviews with plant employees should have revealed this potential hazard. Even without employees revealing this problem, adequate knowledge of documented plant occurrences and the related reports should have triggered an inspection of the vehicles. Inspections conducted on a regular basis, with adequate contact with contractor employees and adequate knowledge of current problems, should have revealed this repeated and potentially dangerous problem. Action taken to correct this problem may have averted a \$365,350 accident which, according to the DOE investigation, had potential for injuries or fatalities.

Oak Ridge Operations Office officials informed us that, due to staff shortages, they were forced to prioritize their work and as a result, inspections were not conducted. The staffing of the safety and health program at the Oak Ridge Operations Office is discussed on page 25. Oak Ridge officials also indicated that they believe their appraisal program mitigates the effect of not conducting inspections.

APPRAISALS SHOULD FOCUS ON PROBLEM AREAS

In lieu of inspections, the Oak Ridge Operations Office is relying heavily on its appraisals of contractors' safety and health programs to ensure employee protection and contractor compliance with appropriate standards and regulations. DOE's appraisal program is designed to test the adequacy of the contractor's system to accomplish DOE objectives. The Oak Ridge Operations Office conducts a number of different types of appraisals in the safety and health area. Those of direct interest to our review include health physics (radiation), industrial safety, industrial hygiene, nuclear criticality and transportation, and fire protection. DOE headquarters also conducts appraisals of the contractor's medical program.

There is no established frequency or scope for conducting appraisals. Oak Ridge Operations Office safety and health officials told us that they believed that, as a minimum, health physics and industrial safety appraisals should be conducted annually.

We found, however, that the Oak Ridge Operations Office's appraisals of safety and health programs at enrichment plants are not adequate for ensuring proper implementation of safety and health policies and procedures. Appraisals are conducted too infrequently and do not provide adequate coverage to fill the void created by the lack of inspections.

The Oak Ridge Operations Office has appraised the Paducah plant most frequently. Health physics and industrial safety appraisals were conducted in 1978 and 1979, respectively. However, there has not been a nuclear criticality and transportation safety appraisal or a medical appraisal (conducted by DOE headquarters) since 1975.

The Portsmouth and Oak Ridge plants have not been appraised as frequently. Portsmouth has not been appraised for nuclear criticality and transportation safety since 1975. The Oak Ridge enrichment plant has not been appraised for health physics or nuclear criticality and transportation safety since 1977. 1/

Oak Ridge Operations Office officials informed us that they do not believe appraisals should include specific problem areas identified in employee complaints or by other mechanisms. We believe, to be effective, appraisals of the most likely problem areas must be conducted. The Oak Ridge Operations Office's appraisals do not appear to be responsive to ongoing problems. For example, the Operations Office received two complaints concerning mislabeling or lack of labeling to warn employees of contaminated equipment at the Oak Ridge plant. Although the Operations Office agreed that a problem existed and suggested that the contractor establish and implement new procedures, the Operations Office's next health protection appraisal did not include a review of this area. The appraisal did mention that the contractor had issued a new procedure on that subject, but did not verify its implementation or correction of the situation noted in the complaints. Sometime later, a similar complaint at this plant was again received by the Oak Ridge Operations Office. DOE's health protection appraisal conducted after this third complaint again did not address this problem area.

In another example, the lack of inspections and inadequacy of appraisals allowed a situation to exist for

1/The Oak Ridge Operations Office conducted nuclear criticality and transportation safety appraisals at Oak Ridge and Paducah and a health physics appraisal at Oak Ridge subsequent to our review.

nearly 1-1/2 years before corrective action was taken. On October 24, 1978, contractor safety and health personnel at the Portsmouth plant issued a report which stated that one area of a building was highly contaminated. The report recommended that the area be classified as a "red job" area 1/ and that decontamination procedures begin. The contractor took no immediate action. In September 1979, the contractor's safety and health staff again found the area to be contaminated and made the same recommendation contained in their earlier report. The contractor again took no action. Oak Ridge Operations Office safety and health officials informed us that they were aware of the contamination problem but thought that corrective action was underway. They also indicated that the decision to operate the area as a "red" area would be a management decision. Discussion with employees working in the contaminated area revealed that they were not aware of the contamination.

Finally, in January 3, 1980, an employee was told of the results of the September 1979 contamination survey. On January 7, 1980, the Oil, Chemical and Atomic Workers Union requested that the area be designated as a "red job" area. The contractor refused, citing a contamination survey conducted by the contractor's production group which showed contamination below the "red job" level. The union requested a copy of the production group's survey but was refused, even though DOE regulations require that such surveys be available to employees. On January 22, 1980, the union filed a complaint with the Oak Ridge Operations Office which, after investigation, determined that the area should be designated as a "red job" area and that decontamination should begin.

DOE appraisals or inspections should have revealed this problem. Knowing of the contamination, appraisals should have included reviewing decontamination procedures underway. This effort would have revealed the contractor's lack of action. In addition, inspections which included radiation monitoring in addition to non-radiological safety and health concerns could have revealed the continuing contamination levels. Inspectors, aware of the contamination problem, could also have learned of the contractor's lack of action by interviewing plant employees in the contaminated area.

1/A "red job" area involves the issuance of company-owned protective clothing, additional shower time, etc., to avoid the contamination of employees and the spread of the contamination from the "red job" area.

DOE LACKS ADEQUATE STAFF TO FULFILL
SAFETY AND HEALTH RESPONSIBILITIES

Regarding both the lack of inspections and the lack of appraisal coverage, Oak Ridge Operations Office officials agreed that adequate coverage has not been achieved. They cited inadequate staffing as the primary impediment to fulfilling their responsibilities.

A review of the Oak Ridge Operations Office's Safety and Environmental Control Division indicates that this claim may have some merit. A review of Operations Office documents indicates that since 1977, inspections and appraisals were scheduled to be performed. The cancellation of the scheduled inspections and appraisals appears to at least partially correlate to the number of staff vacancies. Since June 1978, this division has been continuously staffed by at least two and as many as five professionals less than the authorized ceiling. In January 1980, the division had five authorized positions vacant: a facilities safety engineer, an industrial hygienist, a health protection specialist, a safety engineer, and a fire protection specialist. This situation was further aggravated in the spring of 1980 when the division lost a health physicist and the Assistant Manager for Administration deferred recruitment for three vacant positions (safety engineer, facility safety engineer, and industrial hygienist).

Officials in the Division of Safety and Environmental Control informed us that they believe a contributing factor to two of the positions (fire protection specialist and safety engineer) remaining vacant is that the positions have been evaluated by the Oak Ridge Operations Office at one grade level (civil service general schedule) lower than similar positions in other DOE operations offices. We found this situation to be true, at least in comparison to the Albuquerque and Nevada Operations Offices. DOE headquarters officials informed us that each operations office is responsible for determining its own grade structure.

CHAPTER 4INDEPENDENCE AND ENFORCEMENT AUTHORITY NEEDEDIN DOE'S SAFETY AND HEALTH PROGRAM

The Oak Ridge Operations Office is responsible for the production of enriched uranium as well as the safety and health of the contractor's employees. Such a dual role presents the Oak Ridge Operations Office with conflicting goals and may compromise independent and objective implementation of safety and health standards. In addition, while DOE and the Oak Ridge Operations Office are responsible for ensuring the safety and health of the enrichment plant employees, they cannot apply penalties or comparable leverage to require the contractors to comply with their recommendations, suggestions, requirements, or standards.

DOE'S SAFETY AND HEALTH PROGRAM
NEEDS MORE INDEPENDENCE

DOE has delegated responsibility for the safety and health program for enrichment plants to the Manager of the Oak Ridge Operations Office. The Manager is, however, at the same time responsible for production at the enrichment plants. Within the Oak Ridge Operations Office, production responsibility for the plants has been further delegated to the Assistant Manager for Enriching Operations and specifically to the Enriching Operations Division. This division administers the contracts for operating the gaseous diffusion plants.

The Oak Ridge Operations Office's safety and health program is organized under the Assistant Manager for Manufacturing and Support. As the title implies, the safety and health group is a support organization, and all safety and health matters involving the enrichment plants, including correspondence, reports, and recommendations, are channeled through and under the signature of the Director of the Enriching Operations Division.

This arrangement combines, in one office, responsibility for production and its associated goals, objectives, and costs as well as safety and health goals, objectives, and enforcement. We found no evidence that safety and health concerns were supplanted by production concerns, and both Oak Ridge Operations Office Enriching Operations and safety and health officials assured us that safety and health concerns are not traded for increased production or lower costs. However, we are concerned that the goals and objectives of production may conflict with those of safety

and health and that a safety problem may be viewed from a production-oriented perspective.

A comparison of the organization charts of other operations offices shows no uniform pattern. The placement of the safety and health program at the Albuquerque Operations Office is similar to Oak Ridge's. At the Nevada Operations Office, the Director of the Office of Safety and Health reports directly to the Manager of the Operations Office. At least visually, the arrangement at the Nevada Operations Office provides for increased separation, insulation, and independence of the safety and health function.

PENALTIES NEEDED TO STRENGTHEN ENFORCEMENT

The Oak Ridge Operations Office has no authority to fine contractors for occupational safety or health violations. The primary leverage which the Oak Ridge Operations Office can apply to operating contractors to bring about compliance with safety and health standards and the cessation of violations is through the contract. The contracts for operating each of the enrichment plants stipulates that the contractor will operate the plant as directed, observing all DOE regulations and standards. Because all costs, including costs of modifications for increased safety, are reimbursable to the contractor, DOE officials believe the contractor has motivation to comply with all safety and health standards. If the contractor does not comply to the satisfaction of DOE, the contract may not be renewed or, according to Oak Ridge Operations Office officials, the contract could be cancelled. DOE officials cited the non-renewal of the contract at the Rocky Flats (Colorado) DOE facility as resulting partially from safety concerns. We believe, however, that non-renewal or cancellation of contracts do not provide the contractor with an immediate incentive to correct safety or health violations. In addition, other factors such as production performance would certainly be considered and possibly override any such actions.

Oak Ridge Operations Office officials describe their more immediate compliance leverage as the cost plus award fee contract. This type of contract involves reimbursing all contractor costs and paying a fee, or profit, to the contractor, based on its performance. The performance fee is based on various criteria, including production and safety criteria, but this type of contract is currently used only for the Portsmouth plant. The Paducah and Oak Ridge enrichment plants are operating under a cost plus fixed fee contract, whereby the contractor is paid a fee

for the contract period which has been established by prior negotiations between the contractor and DOE.

The cost plus award fee contract² for operation of the Portsmouth plant is limited in its potential effectiveness as a penalty for non-compliance. Only 6 percent of the total award fee is dependent on safety or health compliance. This is further diluted as the 6 percent is divided between the medical program, industrial safety, health physics, fire protection, transportation safety, etc. Thus, a safety violation or non-compliance with a recommendation in any specific safety or health area has little, if any, effect on the contractor's overall fee.

In comparison, OSHA provides that the Department of Labor may assess civil penalties of up to \$10,000 per violation for willfully or repeatedly violating safety and health standards. Fines of up to \$1,000 per violation may be assessed for individual safety or health violations, and fines of up to \$1,000 per day may be assessed for failure to correct a violation. DOE has no system of fines comparable to any which the Department of Labor uses.

CHAPTER 5CONCLUSIONS AND RECOMMENDATIONS

DOE-owned, contractor-operated facilities inherited from AEC are exempt from coverage under OSHA. As such, employees at DOE's three enrichment plants must rely solely on DOE to ensure that the operating contractors provide safe and healthful working conditions. To ensure implementation of safety and health standards and procedures at existing facilities such as enrichment plants, DOE has established a program which includes three layers of oversight. DOE requires that its operations offices conduct annual inspections of plant conditions, periodic appraisals of the quality of the contractors' safety and health programs, and prompt investigation and response to employee complaints. This system, if properly implemented, is designed to provide safety and health protection for employees at DOE facilities.

We found that the Oak Ridge Operations Office's implementation of this three-layered program at the three enrichment plants has not met its goals. DOE's procedures for handling employee complaints--the first layer--require investigations and prompt responses to legitimate employee complaints. DOE's Oak Ridge Operations Office, however, has relied on contractors to handle complaints which the contractor has already refused to resolve or which they may have caused. The Operations Office has, in some cases, failed to inform complainants of violations found and corrective action underway as a result of the complaints. Where the complaint was not found valid, DOE often failed to inform the complainant as to why he was wrong or of his right to appeal the findings. In addition, the Oak Ridge Operations Office has failed to follow up on recommendations or changes suggested resulting from employee complaints. This has resulted in continuing problems in some areas which may have been avoided if DOE had monitored the contractor's corrective action.

Inspections--a second layer--are important to ensure the physical safety of the plants and are required to be conducted annually. The Oak Ridge Operations Office has conducted only five inspections of the three enrichment plants during the past 4 years. When inspections have been conducted, they have not included radiological monitoring of plant conditions.

Appraisals--the third layer--have been conducted more frequently than inspections. But appraisals have not been performed as often as necessary to ensure employees safe

and healthful working conditions. In addition, appraisals of the adequacy of contractors' safety and health programs have not focused on major problem areas, many of which had been identified in employee complaints.

While the effects of not performing inspections and conducting inadequate appraisals has thus far not resulted in serious injuries, several of the major accidents and leaks of radioactive material which could have caused serious injuries or fatalities may have been prevented if DOE's Oak Ridge Operations Office had adequately monitored the contractors safety and health efforts and conducted on-site inspections of working conditions.

Safety statistics indicate that the enrichment plants are safer than most industrial operations. We are concerned, though, because several major accidents which may have been avoided have occurred and have released enough radioactive material to injure or kill employees. In addition, the enrichment plants have had several hundred releases of radioactive material. Because the exact correlation between low-level exposures or number of exposures to illnesses such as cancer is unknown, caution requires that even low-level exposures should be avoided, if possible.

DOE's ability to enforce safety and health standards on its contractors is also an area for concern. DOE does not have a system of fines for safety and health violations, and its primary enforcement methods relate to the contract with the operators. The impact of these methods is delayed, however, and the safety and health impact is not substantial.

The present structure and operation of the Operations Office combines production with safety and health to interface with the contractor as one entity. While conscious trade-offs of safety and health concerns for production goals have not been detected, the oneness of the organization, at a minimum, detracts from the status and perceived authority of the safety and health program. The closeness of the safety and health program to all phases of contractor relations may have also led to situations where DOE relies on the contractor to carry out DOE's safety and health program without adequate DOE monitoring or oversight.

Various alternatives exist to remedy the apparent conflict of interest between safety, health, and production. As a minimum action, the Oak Ridge safety and health organization could become directly responsible to the Oak Ridge Operations Office Manager. While this would be an improvement, the Manager is, however, still also responsible for production. Further insulation from production could be

provided by removing the control of the safety and health program from Oak Ridge and placing the program under a DOE headquarters organization (i.e., the Assistant Secretary for Environment, Division of Operational and Environmental Safety).

The ultimate, and somewhat more drastic method of ensuring program independence is to allow an outside agency, such as the Nuclear Regulatory Commission or the Department of Labor, to administer the safety program. ^{1/}

RECOMMENDATIONS TO THE SECRETARY OF ENERGY

The problems indicated by our review of DOE's safety and health program at enrichment plants give rise to concern about the adequacy and independence of DOE's entire safety and health program. We are going to review that program in the near future. In the interim, however, we believe that several improvements should be made which would benefit implementation of the program at enrichment plants.

Because the safety and health program at the Oak Ridge Operations Office is not being adequately implemented, we recommend that the Secretary of Energy take action to ensure that inspections and appraisals are performed as DOE's procedures require, and that all employee complaints from these facilities are investigated and followed up on by DOE's Oak Ridge Operations Office. We also recommend that the Secretary of Energy take action to provide increased independence and objectivity in the Oak Ridge Operations Office's safety and health program. Such action could be in the form of an organizational change to provide insulation between safety and health concerns and production goals and objectives.

RECOMMENDATION TO THE CONGRESS

GAO believes that in order to enhance DOE's ability to enforce safety and health standards and procedures, a program of non-reimbursable fines and penalties, similar

^{1/}To transfer this responsibility to the Nuclear Regulatory Commission would require legislative changes. The Congress would have to rescind DOE's present authority and establish new authority with the Nuclear Regulatory Commission. Before the Department of Labor could administer the safety and health program, either DOE would have to agree not to exercise its present authority or the Congress would have to rescind DOE's present authority.

to that included in the Occupation Safety and Health Act of 1970, is needed. Therefore, GAO recommends that the Congress authorize the Secretary of Energy to institute a program of non-reimbursable fines and penalties for safety and health violations.

AGENCY COMMENTS

DOE reviewed a draft of this report, and a copy of the Department's comments is included as appendix I. We are pleased to note that DOE states it has taken action to correct the staffing inadequacies at the Oak Ridge Operations Office and to improve the follow up on employee complaints. The Department also advised us that the organizational location of the Oak Ridge safety and health staff is under review. However, DOE did not agree with several aspects of this report. In commenting on the report, DOE expressed the following major concerns:

- The title of the report does not accurately describe the scope of the report. 1/
- The report concentrates solely on the Department's safety and health program, and comparison with other agency's programs is not valid.
- The report fails to recognize the strengths of the Department's program such as design reviews, pre-operational reviews, and continual interface with contractors.
- The report fails to recognize that the Department's safety system does not operate in a regulatory atmosphere but instead operates under the concept that the Department's responsibility is to identify safety objectives and the contractor is to develop and implement methods of meeting these objectives.
- The enrichment plants operate far below approved radiation limits, and the report's discussion of the effects of radiation should not be included.
- Releases of uranium hexafluoride are not considered to be of high hazard and, given the vast amount of

1/The title of this report has changed since the draft was reviewed by DOE. Although changed to more accurately reflect the contents of the report, the title was not changed to that suggested by DOE. (See app. I, p. 34.)

material handled, the record of releases is not unfavorable.

Our report focuses on the three major tools DOE uses to ensure that safety and health standards and procedures are being observed and implemented at enrichment plants. As such, our work did not include an evaluation of other programs (such as the Department of Labor's) and statements in the report which may have implied comparative evaluations have been deleted. The report does not include other aspects of DOE's program such as design reviews or preoperational safety reviews because these functions bear little relationship to the Department's oversight responsibilities for enrichment plants which have been operating for about 30 years.

We believe this report does recognize that the Oak Ridge Operations Office's safety effort relies on the contractor for compliance with DOE's goals and objectives rather than assuming a regulatory role. The report's recommendation that the Oak Ridge safety and health staff be insulated and independent from production and operation concerns should provide more of the "regulatory atmosphere" we believe is needed to ensure contractor compliance with the Department's safety program.

While it is recognized in this report that the three enrichment plants operate below approved radiation levels and releases of radioactive materials from these plants are generally not considered a high hazard, we are concerned, nevertheless, because the effect of exposures to low levels of radiation is not known. Therefore, exposures to radiation from releases or accidents which can be avoided, should be avoided.

DOE's program provides appraisals, inspections, and complaint investigations as a means to identify potential problems. Complete implementation of that program is essential to reach the Department's goal of limiting exposures to "as low as reasonably achievable."

DOE also provided updated injury statistics and a more precise description relating to the Department's exemption from the Occupational Safety and Health Act of 1970. Changes were made to the report to reflect this information.

APPENDIX I

APPENDIX I



Department of Energy
Washington, D.C. 20585

JUN 12 1980

Mr. J. Dexter Peach
Energy and Minerals Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Peach:

The Department of Energy staff has reviewed your draft report EMD-80-78 and as discussed during the Department of Energy - General Accounting Office meeting on June 3, 1980, recommends that the report be substantially revised. We offer the following comments for your consideration.

1. To more appropriately describe the extent of the study it is suggested that the title be changed to: "An Evaluation of the Implementation of the Department of Energy's Occupational Safety and Health Program at the Uranium Enrichment Plants."
2. We understand that the report does not purport to be a comparison of the Department's safety program with the programs of either the Department of Labor or the Nuclear Regulatory Commission. In our opinion, the extent of your review is limited to two principal areas:
 - a. the record of injuries and illnesses at the enrichment plants as compared to a comparable industry group, and
 - b. Oak Ridge's degree of compliance with the Department's requirements.

Sections of the report give the appearance that the performance of the Oak Ridge Office is being measured against some presumed level of effort by the regulatory agencies. Since the regulatory agencies were not studied, we believe it is not valid to make such comparisons.

3. A more complete review of Department of Energy requirements to ensure safety should be made and the Oak Ridge performance in all safety areas should be measured. Within the Department's safety program, minimum standards are established which include the

(See GAO note, p. 37.)

APPENDIX I

APPENDIX I

2

Department of Labor's requirements; a safety analysis system is in place which requires a careful review of the design of a facility; preoperational checks are made; there is continuing contact with contractor counterparts; quality and reliability assurance programs support safety; formal safety and health appraisals are made; and accidents are reported and thoroughly investigated. An additional component of the program, added after the passage of the Occupational Safety and Health Act, provides for employee participation in inspections and permits the direct filing of complaints with the Department of Energy. The report is distorted because it focuses only on the inspections, appraisals, and response to complaint aspects of the Oak Ridge program. An evaluation of the Oak Ridge strengths as well as weaknesses would give a more valid perspective to the report.

4. In our systems approach to safety, we rely on the recognition of safety as a line function within each contractor's organization while the Department of Energy provides surveillance of safety as well as program and management functions through continuing performance evaluation. The Department of Energy, in its safety role, does not operate strictly in a regulatory atmosphere. The system operates on the concept that the Department identifies the objectives to the contractor and the contractor develops the various means of meeting the objectives. It is, therefore, the contractor's expertise and staff which are relied upon to develop and execute the programs under the direction and consent of the Operations Office. Accordingly, the small Operations Office staff is working daily with the contractors' staff and assisting in the establishment of priorities and the identification of needed resources. This is in sharp contrast to the relationship between a regulatory agency and private industry especially when one recognizes that it is primarily only during the inspection process that the regulatory agency becomes intimately knowledgeable with what is happening at the plants, and that the industry being regulated is motivated by profit.
5. A major basis used in the GAO report, and endorsed by the Department of Energy, for the determination of whether or not the operations of the enrichment plants have been conducted safely, is a comparison of plant accident statistics with those of the chemical industry and all industry. The record of the enrichment plants over a lengthy period, and currently, is far better than the chemical industry or industry generally.

Through a misunderstanding the All Industry and Chemical Industry incident rates (see "Accident Facts, 1979 Edition," National Safety Council) used in your draft report were taken from the column labelled "Cases Involving Days Away From Work and Deaths" while the rates for the three plants are "Total Lost Workday Cases." A

APPENDIX I

APPENDIX I

3

similar error was made in the second table on page 6. Also, the plant figures shown in the report were correct at the time you conducted the survey; however, since then a final 1978, and an interim 1979, adjustments have been made. The corrected statistics are reflected below:

Total Lost Workday Cases^{1/} Per 200,000 Employee Hours

All Industry (1978)	3.46
Chemical Industry (1978)	1.78
Paducah Plant	
1978	0.5
1979	0.4
Portsmouth Plant	
1978	0.4
1979	0.4
Oak Ridge Plant	
1978	0.4
1979	0.3

Total Lost Work Days^{2/} (Due to Injuries) Per 200,000 Employee Hours

All Industry (1978)	61.0
Chemical Industry (1978)	34.0
Paducah Plant	
1978	22.1
1979	6.5
Portsmouth Plant	
1978	9.7
1979	16.4
Oak Ridge Plant	
1978	22.7
1979	5.8

^{1/} Total Lost Workday Cases includes injury cases which involve days away from work and days of restricted work activity.

^{2/} Total Lost Work Days include days away from work and days of restricted work activity.

APPENDIX I

APPENDIX I

4

6. There are Federally approved standards for occupational exposure to ionizing radiation and the enrichment plants have been operating far below the approved limits. Any discussion of the effects of exposures to levels of radiation far below the limits would seem to be beyond the scope and technical depth of the study and should not be pursued.
7. A major issue is made of the number of releases of UF₆ that have occurred at the plants. The safety significance of the release of material from any process operation will depend on the hazard of the material. In the enrichment process the material is not considered to be of high hazard and this fact should be borne in mind when considering the UF₆ releases. The hazard involved does not require a zero release criterion and, consequently, the system was not designed for one. A listing of plant statistics (i.e., about 30,000 cylinder connects and disconnects per year; 400 miles of piping, etc.) would be helpful to the reader of the report in putting the Department's UF₆ release experience in perspective.
8. With respect to the discussion on page 2 regarding the Department of Energy's authority for regulating safety and health at the enrichment plants, we suggest that you correct it in accordance with the version provided separately by our counsel. It is our understanding that you plan to obtain an opinion from General Accounting Office's counsel as to whether or not the Department has the authority to levy fines against its contractors, since our counsel doubts if such authority exists.

Generally we would not comment on your recommendations until the receipt of your final report. In this case, however, we wish to advise you that we are taking immediate action to correct the staffing inadequacies which exist at Oak Ridge. We have also taken action to improve the follow up on employee complaints and are reviewing the matter of location of the Oak Ridge safety and health staff.

We appreciate this opportunity to comment on the draft report. Various offices in the Department of Energy have developed specific additional information which has been provided to you separately.

Sincerely,

M. R. Hobbs
 Jack E. Hobbs
 Controller

GAO note: Page references were changed to reflect their location in this final report.

○

(301549)